


# TC-WE635

## SERVICE MANUAL

*US Model  
Canadian Model  
AEP Model  
UK Model  
E Model  
Australian Model  
Chinese Model*



Dolby noise reduction extension manufactured under license from Dolby Laboratories Licensing Corporation.  
HX Pro originated by Bang & Olufsen. "DOLBY", the double-D symbol  and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.

Model Name Using Similar Mechanism	TC-WE425/WE525/WR681
Transport Mechanism Type	TCM-230ASR4/HSR4

### SPECIFICATIONS

#### System

##### Recording system

4-track 2-channel stereo

##### Fast-winding time (approx.)

100 sec. (with Sony C-60 cassette)

##### High-speed fast-winding time (approx.) (TC-WE835S only)

45 sec. (with Sony C-60 cassette)

##### Bias

AC bias

##### Signal-to-noise ratio (at peak level and weighted with Dolby NR off)

Type I tape, Sony Type I (NORMAL): 55 dB

Type II tape, Sony Type II (HIGH): 57 dB

Type IV tape, Sony Type IV (METAL): 58 dB

##### S/N ratio improvement (approximate values)

With Dolby B NR on: 5 dB at 1 kHz, 10 dB at 5 kHz

With Dolby C NR on: 15 dB at 500 Hz, 20 dB at 1 kHz

##### Harmonic distortion

0.4% (with Type I tape, Sony Type I (NORMAL):  
160 nWb/m 315 Hz, 3rd H.D.)

1.8% (with Type IV tape, Sony Type IV (METAL):  
250 nWb/m 315 Hz, 3rd H.D.)

#### Frequency response (Dolby NR off)

##### Tape type

Type I tape, Sony Type I (NORMAL)	30 – 16,000 Hz ( $\pm 3$ dB, IEC), 20 – 17,000 Hz ( $\pm 6$ dB)
-----------------------------------	--

Type II tape, Sony Type II (HIGH)	30 – 17,000 Hz ( $\pm 3$ dB, IEC), 20 – 18,000 Hz ( $\pm 6$ dB)
-----------------------------------	--

Type IV tape, Sony Type IV (METAL)	30 – 19,000 Hz ( $\pm 3$ dB, IEC), 20 – 20,000 Hz ( $\pm 6$ dB), 30 – 13,000 Hz ( $\pm 3$ dB, $-4$ dB recording)
------------------------------------	--

— Continued on next page —

## STEREO CASSETTE DECK

# SONY®



#### Variable pitch range (approx.)

–30 to +30%

#### Outputs

##### Line outputs (phono jacks)

Rated output level: 0.5 V at a load impedance of 47 kilohms

Load impedance: Over 10 kilohms

##### Headphones (stereo phone jack)

Output level: 0.25 mW at a load impedance of 32 ohms

#### General

##### Power requirements

Where purchased	Power requirements
U.S.A. and Canada	120 V AC, 60 Hz
U.K., Continental Europe, China and certain countries in Asia	220 – 230 V AC, 50/60 Hz
Australia	240 V AC, 50/60 Hz
Other countries	120/220/230 – 240 V AC, 50/60 Hz

##### Power consumption

22 W

##### Dimensions (approx.) (w/h/d)

Model for U.K. and Australia:

430 × 120 × 310 mm

Model for other countries:

430 × 120 × 290 mm

(17 × 4 <sup>3</sup>/<sub>4</sub> × 11 <sup>1</sup>/<sub>2</sub> in.)

including projecting parts and controls

##### Mass (approx.)

4.3 kg (9 lbs 8 oz)

#### Supplied accessories

- Audio connecting cords (2)
- Sony R6 (size AA) batteries (2)\*
- Control A1 cord (1)\*\*

\*\* Supplied for Canadian models only

Design and specifications are subject to change without notice.

#### SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

Check the antenna terminals, metal trim, “metallized” knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

#### LEAKAGE

The AC leakage from any exposed metal part to earth Ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The “limit” indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

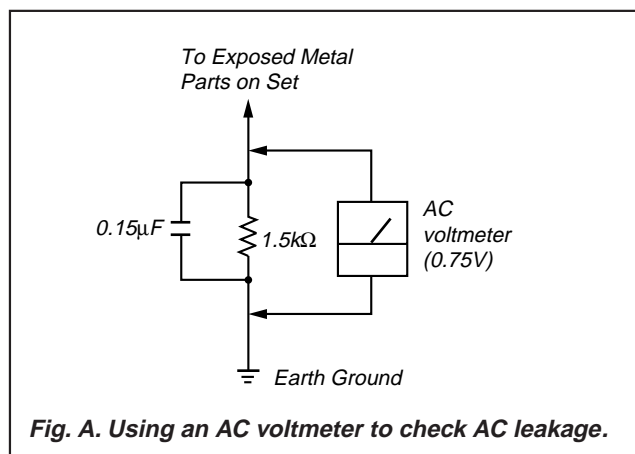


Fig. A. Using an AC voltmeter to check AC leakage.

#### SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  $\triangle$  OR DOTTED LINE WITH MARK  $\triangle$  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

#### ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE  $\triangle$  SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

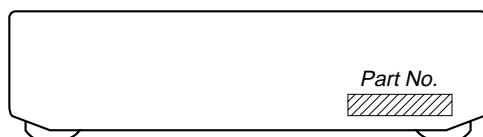
#### 与安全有关的零部件须知

在原理图上用阴影及  $\triangle$  标记来识别的零部件在安全操作上是具有关键性的。这些零部件要用本手册中所示的部件号对应的索尼零部件进行更换。

在安全操作上具有关键性的电路调整与索尼公司出版的维修手册完全一致。在更换关键零部件时或怀疑动作失常时，请进行这些调整操作。

## MODEL IDENTIFICATION

–Back panel–



PARTS No.	MODEL
3-032-412-0□	US model
3-032-412-1□	CND model
3-032-412-2□	AEP model
3-032-412-3□	UK model
3-032-412-4□	AUS model
3-032-412-5□	SP, MY model
3-032-412-6□	CH model

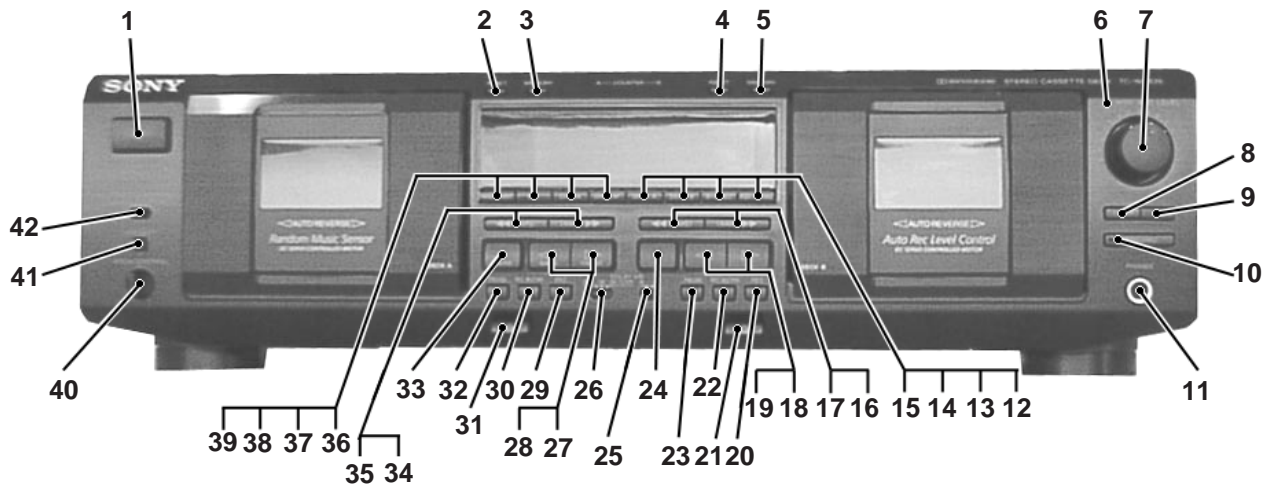
- Abbreviation  
CND : Canadian model  
SP : Singapore model  
MY : Malaysia model  
AUS : Australian model  
CH : Chinese model

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## SECTION 1 GENERAL

### Front Panel



### LOCATION OF PARTS AND CONTROLS

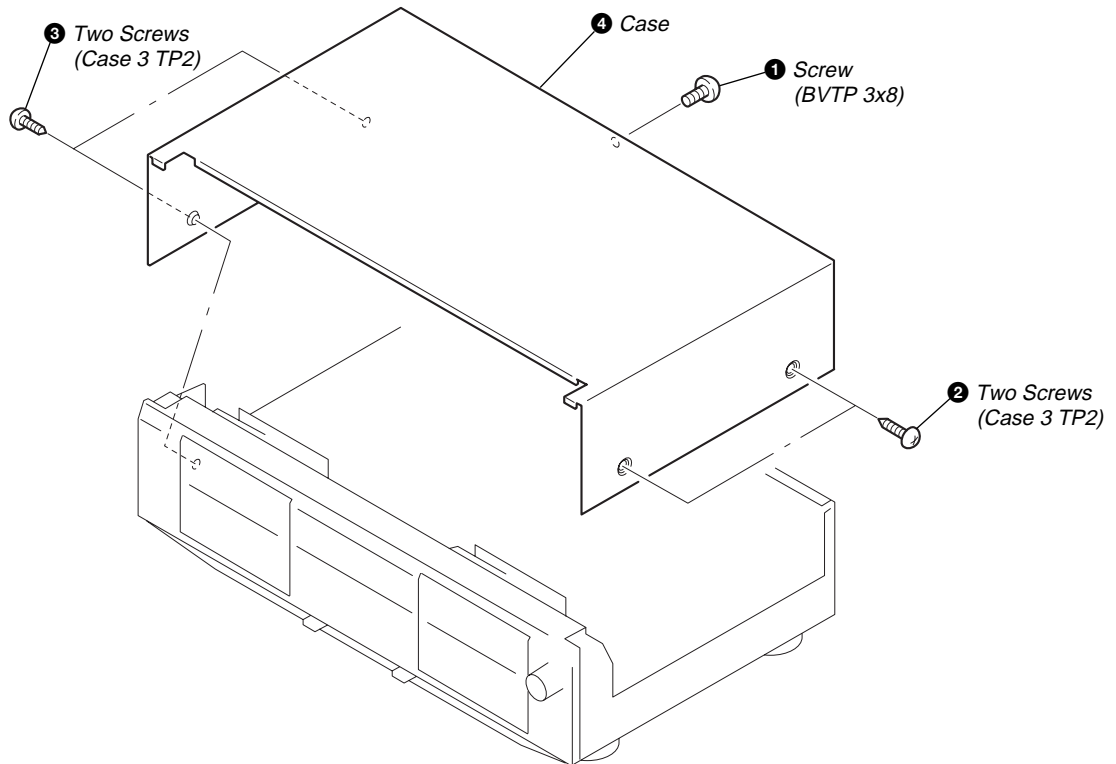
- |                              |                                 |
|------------------------------|---------------------------------|
| 1 ① button                   | 22 REC MUTING ○ (Deck B) button |
| 2 RESET (Deck A) button      | 23 PAUSE    (Deck B) button     |
| 3 MEMORY (Deck A) button     | 24 ■ (Deck B) button            |
| 4 RESET (Deck B) button      | 25 DOLBY NR B/C switch          |
| 5 MEMORY (Deck B) button     | 26 DOLBY NR OFF/ON FILTER       |
| 6 AUTO REC LEVEL indicator   | 27 ▷/FRONT (Deck A) button      |
| 7 REC LEVEL knob             | 28 ◁/BACK (Deck A) button       |
| 8 FADER button               | 29 REC ● (Deck B) button        |
| 9 ARL button                 | 30 REC MUTING ○ (Deck A) button |
| 10 SYNCHRO button            | 31 ⏏ (Eject) (Deck A) button    |
| 11 PHONES jack               | 32 PAUSE    (Deck A) button     |
| 12 HIGH/NOMAL button         | 33 ■/CLEAR (Deck A) button      |
| 13 A+B REC button            | 34 (AMS) ►► (Deck A) button     |
| 14 DECK B button             | 35 ◀◀ (AMS) (Deck A) button     |
| 15 DECK A button             | 36 DISPLAY button               |
| 16 (AMS) ►► (Deck B) button  | 37 CHECK button                 |
| 17 ◀◀ (AMS) (Deck B) button  | 38 SET button                   |
| 18 ▷ (Deck B) button         | 39 RMS/START button             |
| 19 ◁ (Deck B) button         | 40 PITCH CONTROL knob           |
| 20 REC ● (Deck B) button     | 41 PITCH CONTROL button         |
| 21 ⏏ (Eject) (Deck B) button | 42 DIRECTION switch             |

• AMS is the abbreviation for Automatic Music Sensor.

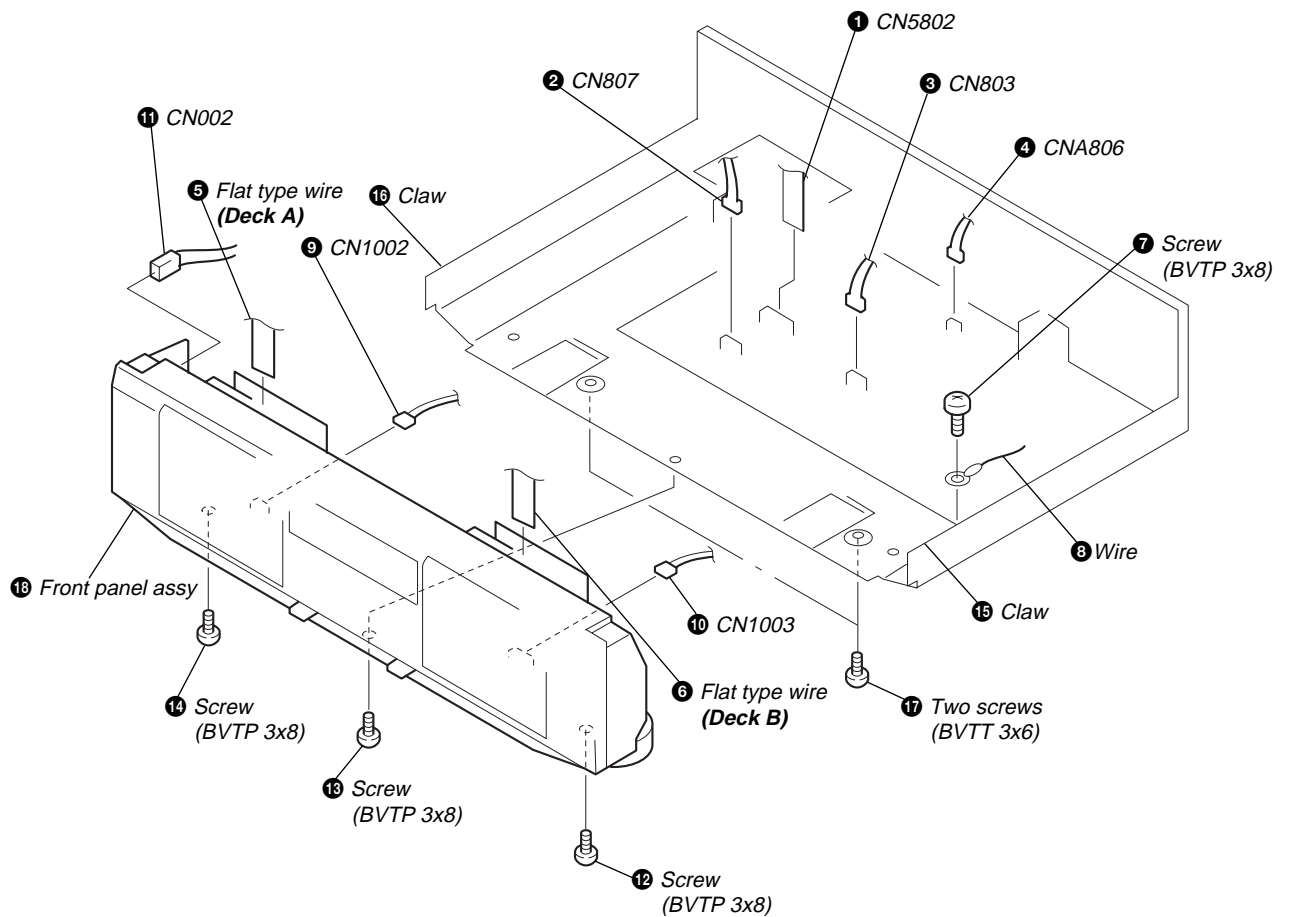
## SECTION 2 DISASSEMBLY

**Note :** Follow the disassembly procedure in the numerical order given.

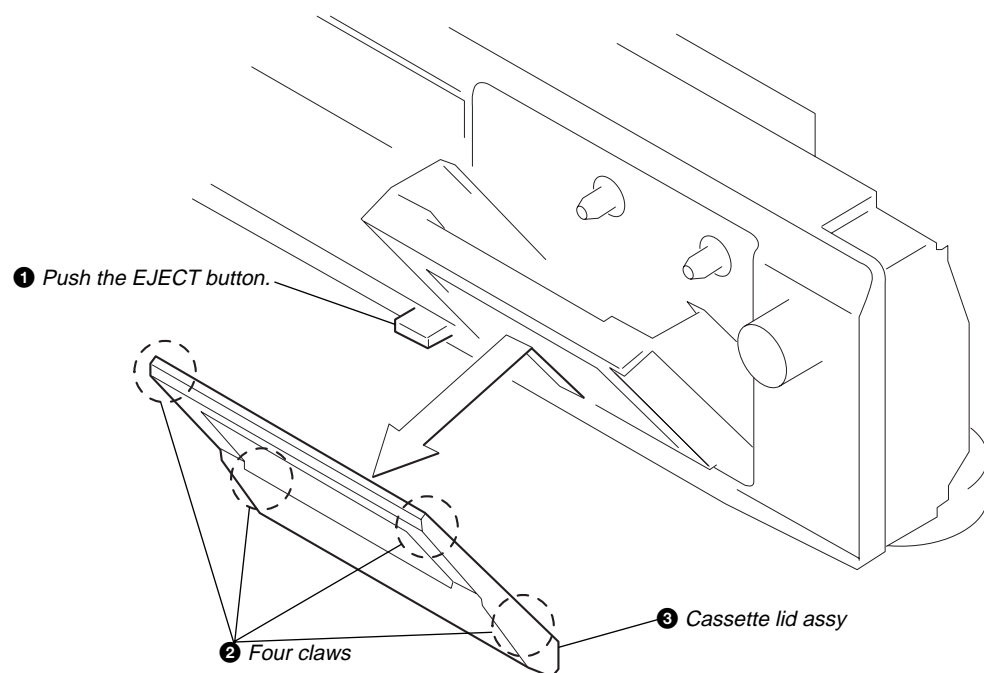
### 2-1. CASE



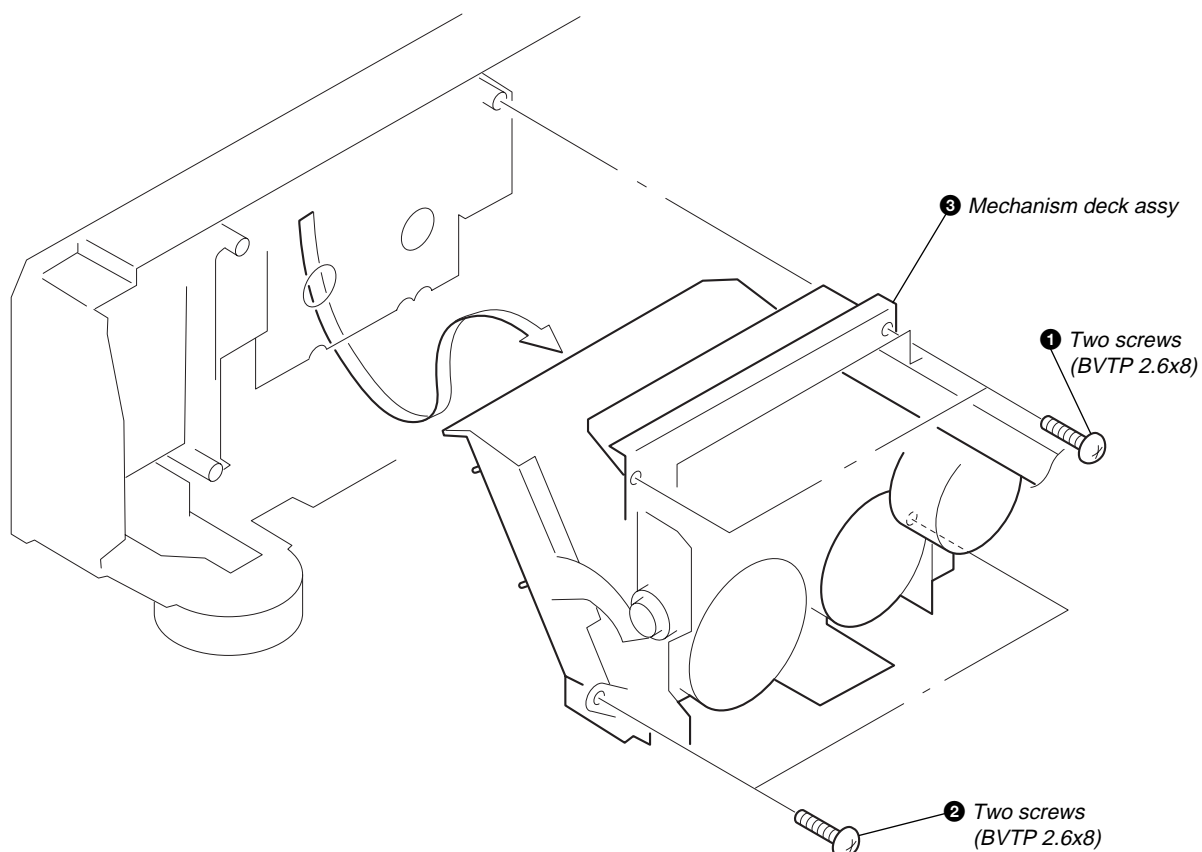
### 2-2. FRONT PANEL ASSEMBLY



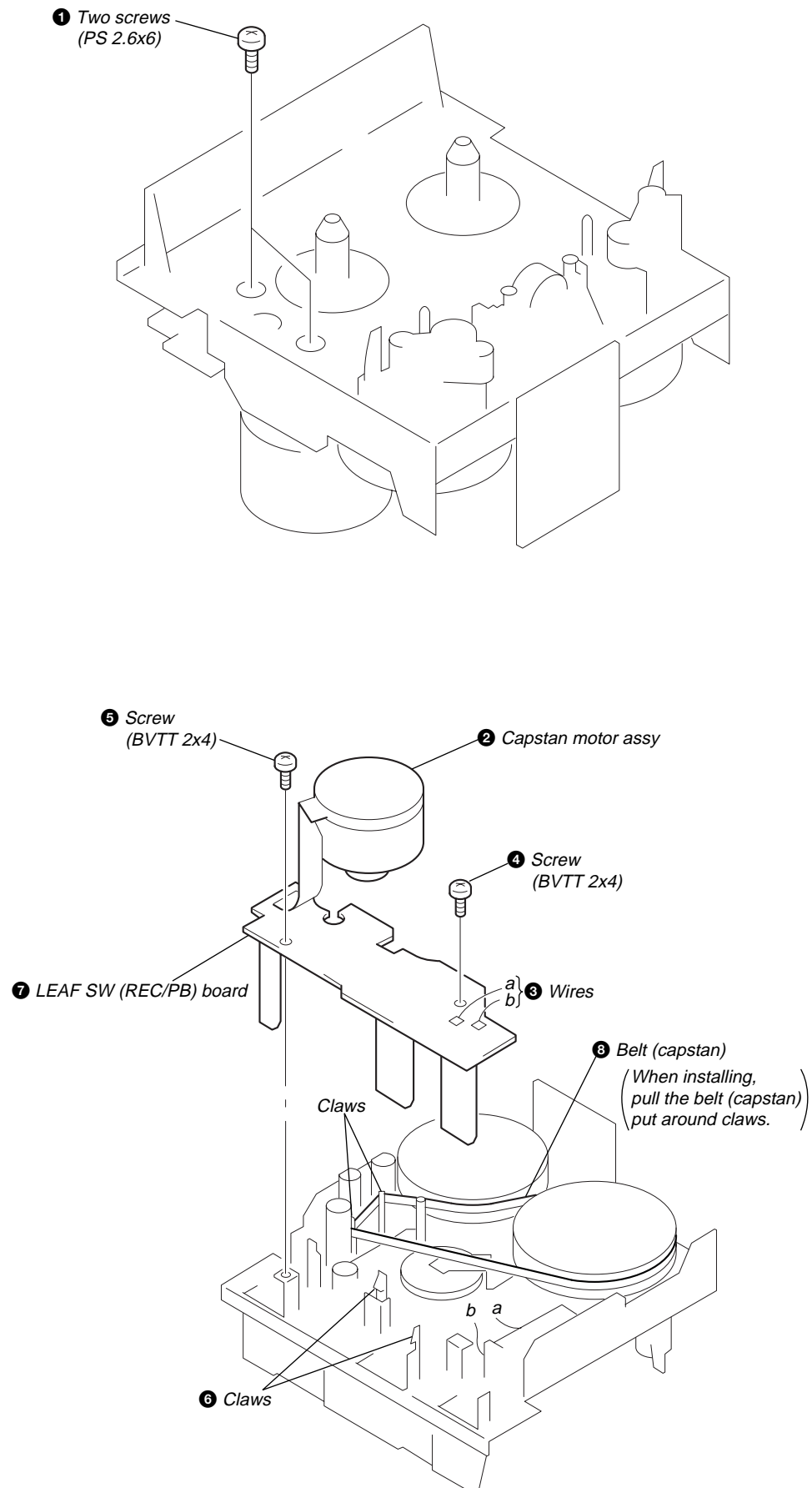
### 2-3. CASSETTE LID ASSEMBLY (DECK A/B)



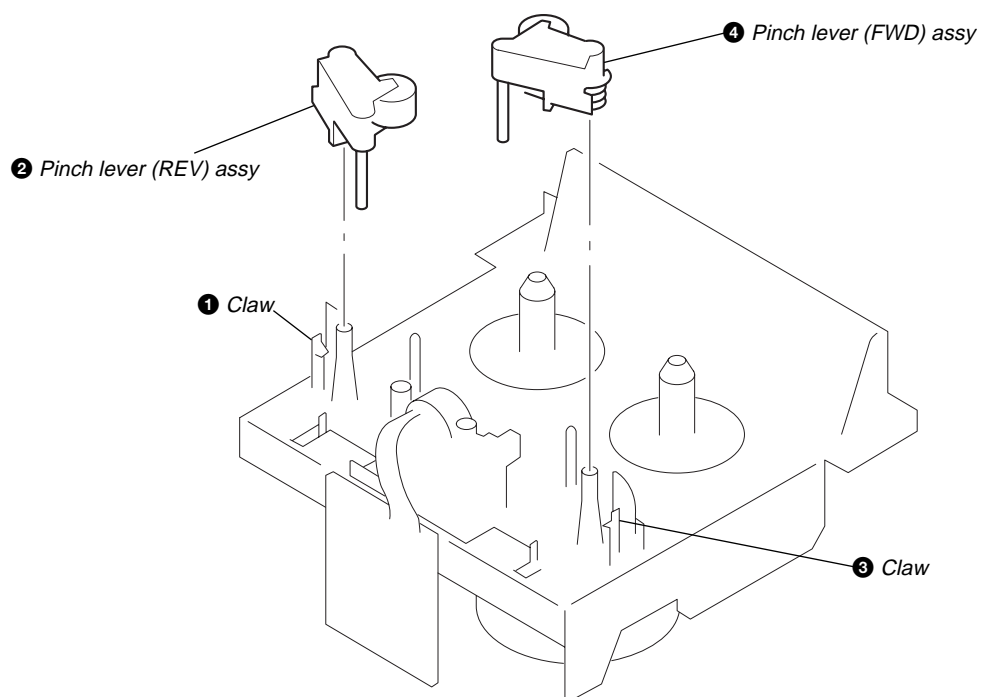
### 2-4. MECHANISM DECK ASSEMBLY (DECK A/B)



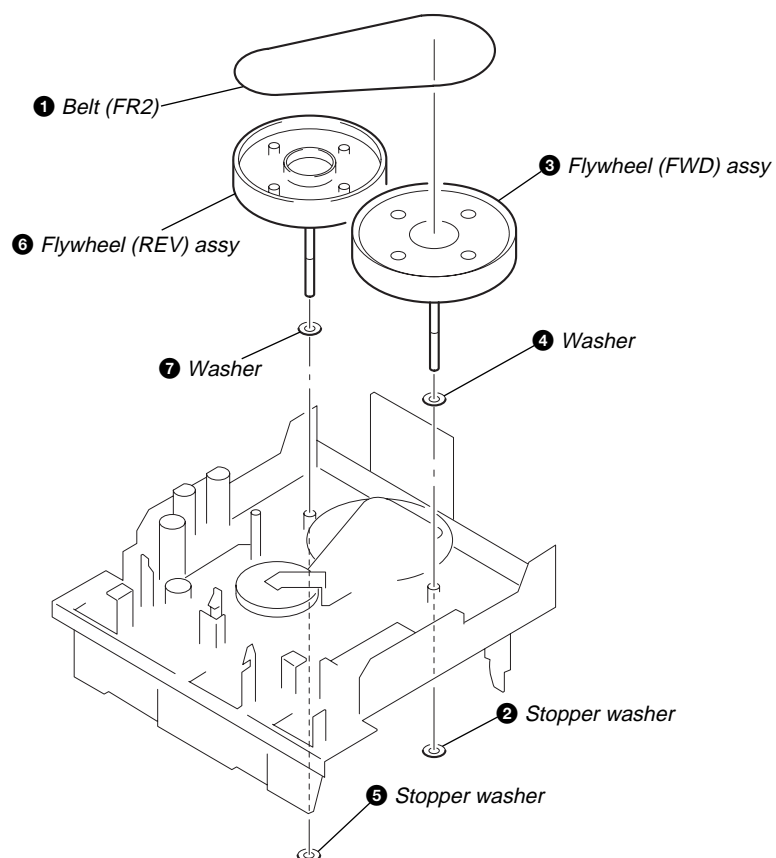
## 2-5. LEAF SW (REC/PB) BOARD (DECK A/B)



## 2-6. PINCH LEVER (FWD)/(REV) ASSEMBLY (DECK A/B)

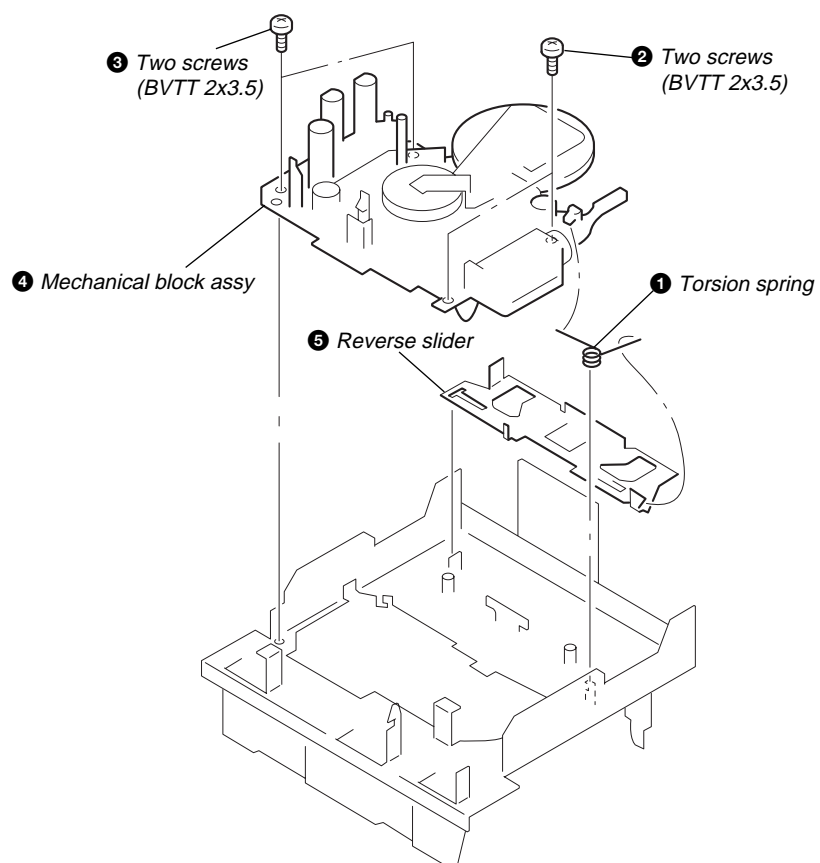


## 2-7. FLYWHEEL (FWD)/(REV) ASSEMBLY (DECK A/B)

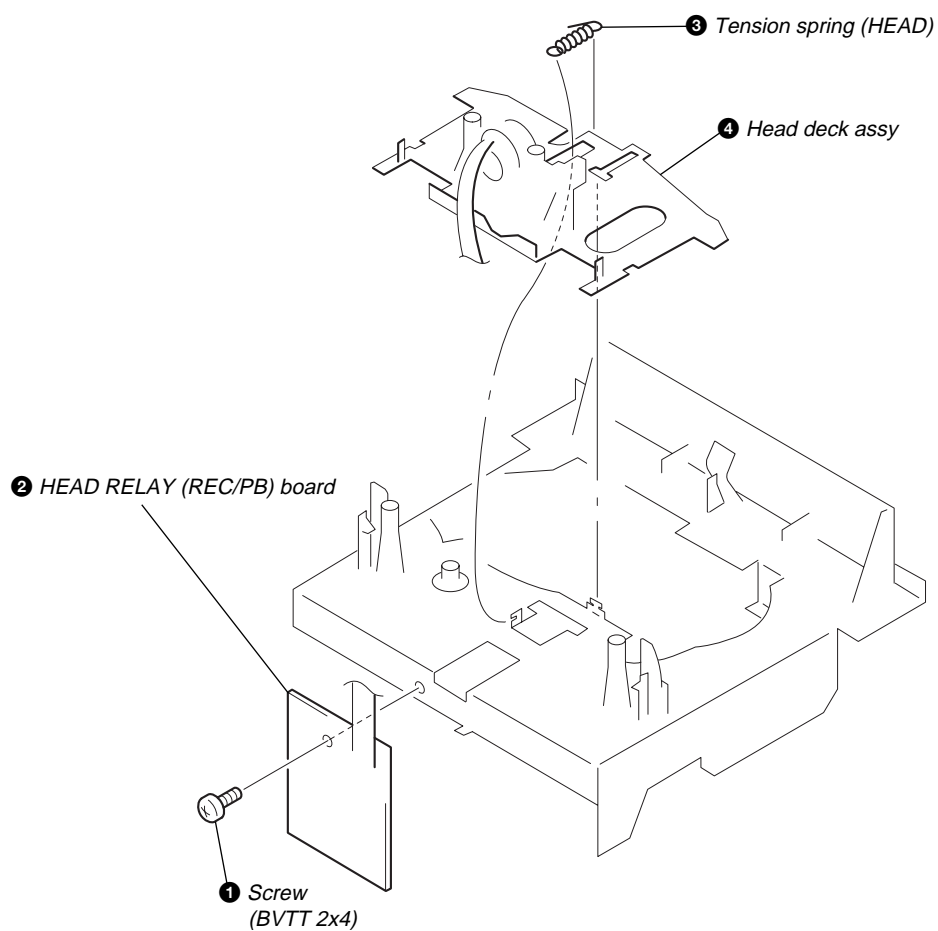




## 2-8. MECHANICAL BLOCK ASSEMBLY (DECK A/B)






## 2-9. HEAD RELAY (REC/PB) BOARD (DECK A/B)



# SECTION 3























## SERVICE MODE

### KEY CHECK & DISPLAY CHECK MODE

While pressing the /BACK (A deck) and  (B deck) buttons with the power off, press the  button to turn on the power.

The fluorescent display tube displays the number or special message corresponding to the button pressed.

The message displayed differs according to the position of the switch.

A deck side		B deck side	
Button	Display	Button	Display
RESET	0	RESET	0
MEMORY	1	MEMORY	1
RMS/START	2	DECK A	2
SET	3	DECK B	3
CHECK	4	A+B REC	4
DISPLAY	5	HIGH/NOMAL	5
 (AMS)	6	 (AMS)	6
(AMS) 	7	(AMS) 	7
 /CLEAR	Grid check display (*1)		Segment check display (*2)
 /BACK	8		8
 /FRONT	9		9
PAUSE 	A	PAUSE 	A
REC MUTING 	b	REC MUTING 	b
REC 	C	REC 	C
DIRECTION MODE switch		FADER	d
		ARL	E
	PLAY	SYNCHRO	All lit
RELAY		DOLBY NR switch (*3)	
		OFF	
		B	PLAY
		C	

(\*3) The DOLBY NR switch consists of a pair of switches.  
B and C are valid only in the ON or ON FILTER state.

Grit check display (\*1)



Segment check display (\*2)



## SECTION 4 MECHANICAL ADJUSTMENTS

### PRECAUTION

- Clean the following parts with a denatured alcohol-moistened swab :
 

record/playback/erase head	pinch roller
rubber belts	capstan
idlers	
- Demagnetize the record/playback head with a head demagnetizer.
- Do not use a magnetized screwdriver for the adjustment.
- After the adjustments, apply suitable locking compound to the parts adjusted.
- The adjustments should be performed with the rated power supply voltage unless otherwise noted.

### Torque Measurement

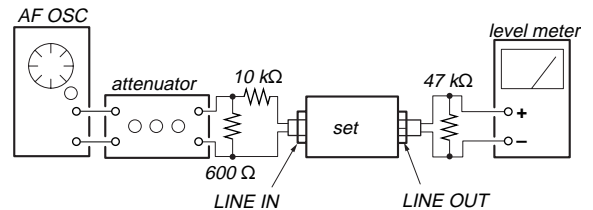
Mode	Torque meter	Meter reading
Forward	CQ-102C	30 to 65 g • cm (0.42 to 0.90 oz • inch)
Forward back tension	CQ-102C	DECK A : 1 to 6 g • cm (0.014 to 0.083 oz • inch)  DECK B : 2 to 9 g • cm (0.028 to 0.125 oz • inch)
Reverse	CQ-102RC	30 to 65 g • cm (0.42 to 0.90 oz • inch)
Reverse back tension	CQ-102RC	1 to 6 g • cm (0.014 to 0.083 oz • inch)
FF/REW	CQ-201B	70 to 120 g • cm (0.97 to 1.67 oz • inch)

## SECTION 5 ELECTRICAL ADJUSTMENTS

### PRECAUTION

- The adjustment should be performed in the publication.  
(Be sure to make playback adjustment at first.)
- The adjustments and measurement should be performed for both L-CH and R-CH.
  - Switch position  
DOLBY NR switch : OFF  
DIRECTION MODE switch :  $\rightleftarrows$
  - Standard record position :  
Deliver the standard input signal level to input jack and set the **REC LEVEL** knob to obtain the standard output signal level as follows.

– Record Mode –



### Standard Input Level

Input terminal	LINE IN
source impedance	10 kΩ
input signal level	0.5 V (–3.8 dB)

### Standard Output Level

Input terminal	LINE IN
source impedance	10 kΩ
input signal level	0.5 V (–3.8 dB)

### Test Tape

Tape	Contents	Use
P-4-A100	10 kHz, –10 dB	Azimuth Adjustment
WS-48B	3 kHz, 0 dB	Tape Speed Adjustment
P-4-L300	315 Hz, 0 dB	PB Level Adjustment

**0 dB = 0.775 V**

### Test Mode

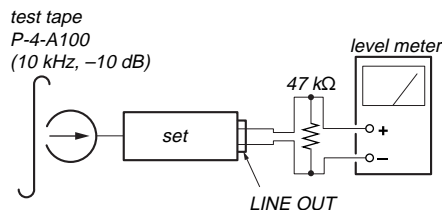
- While pressing the **▷/FRONT (DECK A)** and **REC MUT-ING** buttons with the power off, press the **⓪** button to turn on the power. The fluorescent display tube lights up for about one second, and the test mode is set. The test mode performs the following two special functions.
  - Playback speed switching function  
Pressing the **HIGH/NORMAL** button switches the playback speed between standard/double speed.
  - Counter RESET & MEMORY function  
Resets the counter when recording starts. When rewound with the **◀◀ (AMS)** button after recording, stops at the point where recording started.
- To release the test mode, turn OFF the power switch.

## Record/Playback Head Azimuth Adjustment

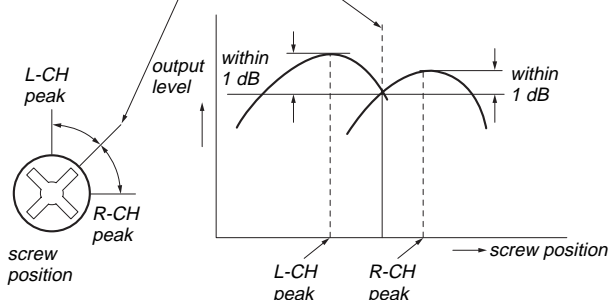
**DECK A** **DECK B**

### Procedure:

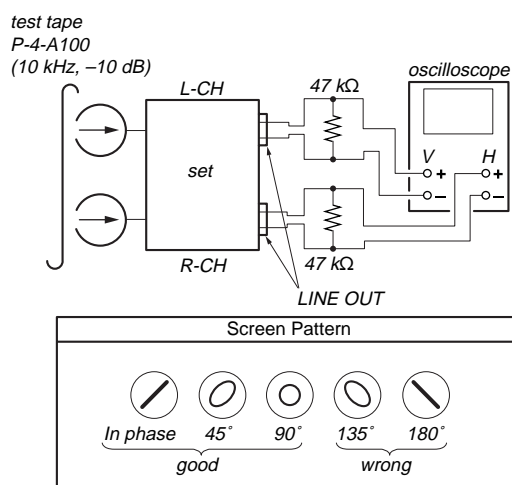
1. Forward Playback Mode



2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 1 dB.

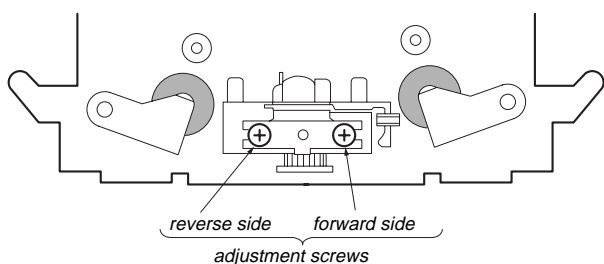


3. Playback Mode



4. Change the reverse playback mode and repeat the steps 1 to 3.
5. After the adjustment, lock the adjustment screws with suitable locking compound.

**Adjustment Location:** – record/playback head –



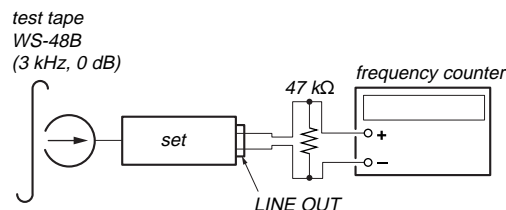
## Tape speed Adjustment

**DECK A** **DECK B**

### Adjust DECK A first

#### Procedure:

– Forward Playback Mode –



(High speed adjustment)

1. Press the **PITCH CONTROL** button to set to **OFF**.
2. Set to test mode. (Refer to page 11.)
3. Press the **[>]** button to playback.
4. Press the **HIGH/NORMAL** button to playback at double speed.
5. Adjust RV316 (DECK A), RV416 (DECK B) so that the frequency counter reading becomes  $5,980 \pm 80$  Hz.

(Normal speed adjustment)

6. Press the **[>]** button to playback.
7. Press the **HIGH/NORMAL** button to playback at normal speed.
8. Adjust RV317 (DECK A), RV417 (DECK B) so that the frequency counter reading becomes  $3,000 \pm 90$  Hz.

(Pitch control adjustment) (DECK A)

9. Press the **PITCH CONTROL** button to set to **ON**.
10. Set **PITCH CONTROL** knob to mechanical center.
11. Press the **[>]** button to playback.
12. Adjust RV318 so that the frequency counter reading becomes  $2,990 \pm 90$  Hz.

**Adjustment Location:** MAIN board (See page 14.)

### Sample value of wow and flutter

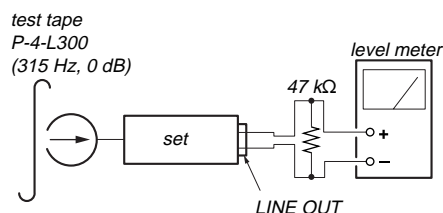
W.RMS (JIS) less than 0.3% .  
(test tape : WS-48B)

## Playback Level Adjustment

**DECK A** **DECK B**

### Procedure:

– Forward Playback Mode –



Adjust DECK A : RV111 (L-CH), RV211 (R-CH) and  
DECK B : RV121 (L-CH), RV221 (R-CH) so the level meter reading becomes the adjustment limits below.

### Adjustment Value:

LINE OUT level :  $-7.7 \pm 0.5$  dB (0.301 to 0.338 V)

Level difference between channels : within 0.5 dB

Confirm that the LINE OUT level does not change in playback mode while changing the mode from playback to stop several times.

**Adjustment Location:** MAIN board (See page 14.)

## Bias Consumption Current Adjustment

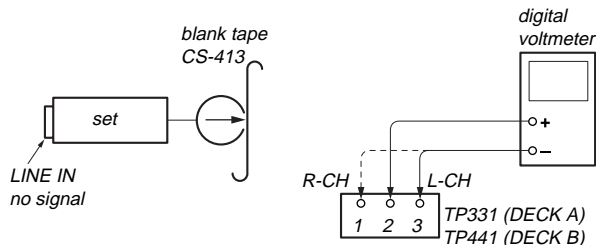
**DECK A** **DECK B**

This adjustment should be performed when replacing the head assy or the bias oscillator transformer (T131, T141),(T231, T241).

### Setting:

**REC LEVEL** knob : standard recording position (See page 11.)

### Procedure:



1. Connect the digital voltmeter to test point TP331 ( DECK A) and TP441 (DECK B).
2. Set DECK A: RV131 (L-CH), RV231 (R-CH) and DECK B: RV141 (L-CH), RV241 (R-CH) to mechanical center.
3. Press the button to playback.
4. Adjust DECK A: T131 (L-CH), T231 (R-CH) and DECK B: T141 (L-CH), T241 (R-CH) so that the digital voltmeter reading becomes minimum.

**Adjustment Value:** Maximum 220 mV

**Adjustment Location:** MAIN board (See page 14.)

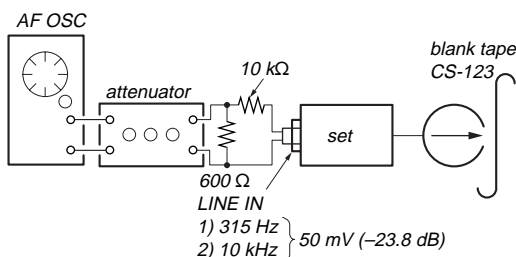
## Record Bias Adjustment **DECK A** **DECK B**

### Setting:

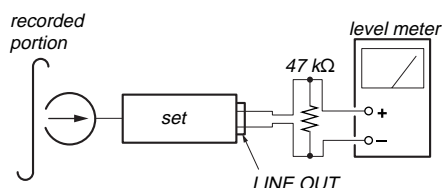
**REC LEVEL** knob : standard record position (See page 11.)

### Procedure:

1. Set to test mode (See page 11.)
2. Insert a tape into deck B, press the button and then press the button to start recording.



### 3. Record Mode



4. Playback Mode
5. Confirm playback the signal recorded in step 2 become adjustment level as follows.  
If the selevls do not adjustment level, adjust DECK A: RV131 (L-CH), RV231 (R-CH) and DECK B: RV141 (L-CH), RV241 (R-CH) to repeat steps 3 and 4.

### Adjustment level:

The palyback output of 10 kHz level difference against 315 Hz reference should be  $\pm 0.5$  dB.

**Adjustment Location:** MAIN board (See page 14.)

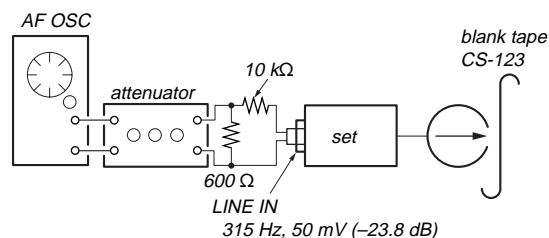
## Record Level Adjustment **DECK A** **DECK B**

### Setting:

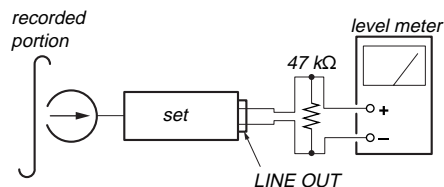
**REC LEVEL** knob : standard record position (See page 11.)

### Procedure:

1. Set to test mode (See page 11.)
2. Insert a tpe into deck B, press the button and then press the button to start recording.
3. Record Mode



### 4. Playback Mode



5. Confirm playback the signal recorded in step 2 become adjustment level as follows.  
If the selevls do not adjustment level, adjust the RV101 (L-CH) and RV201 (R-CH) to repeat steps 3 and 4.

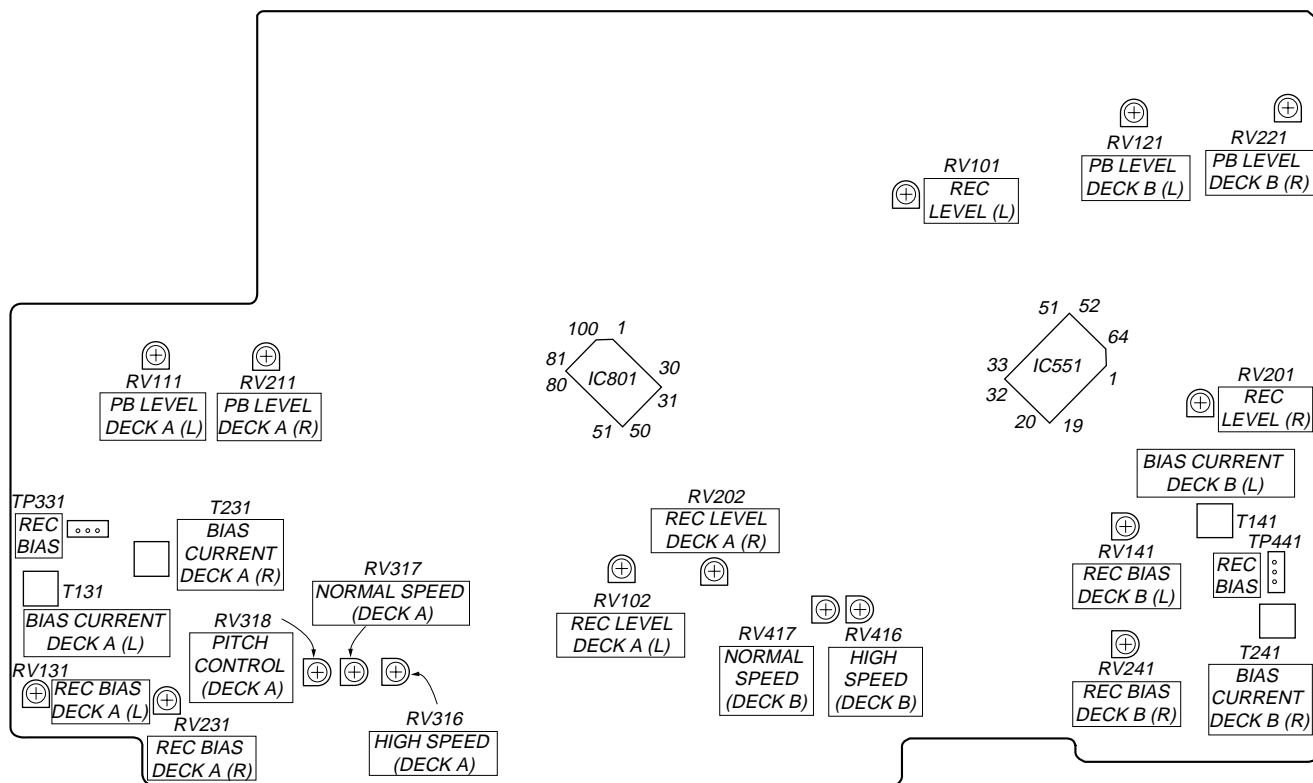
### Adjustment Value:

LINE OUT level :  $-23.8 \pm 0.5$  dB (47.2 to 53.0 mV)

**Adjustment Location:** MAIN board (See page 14.)

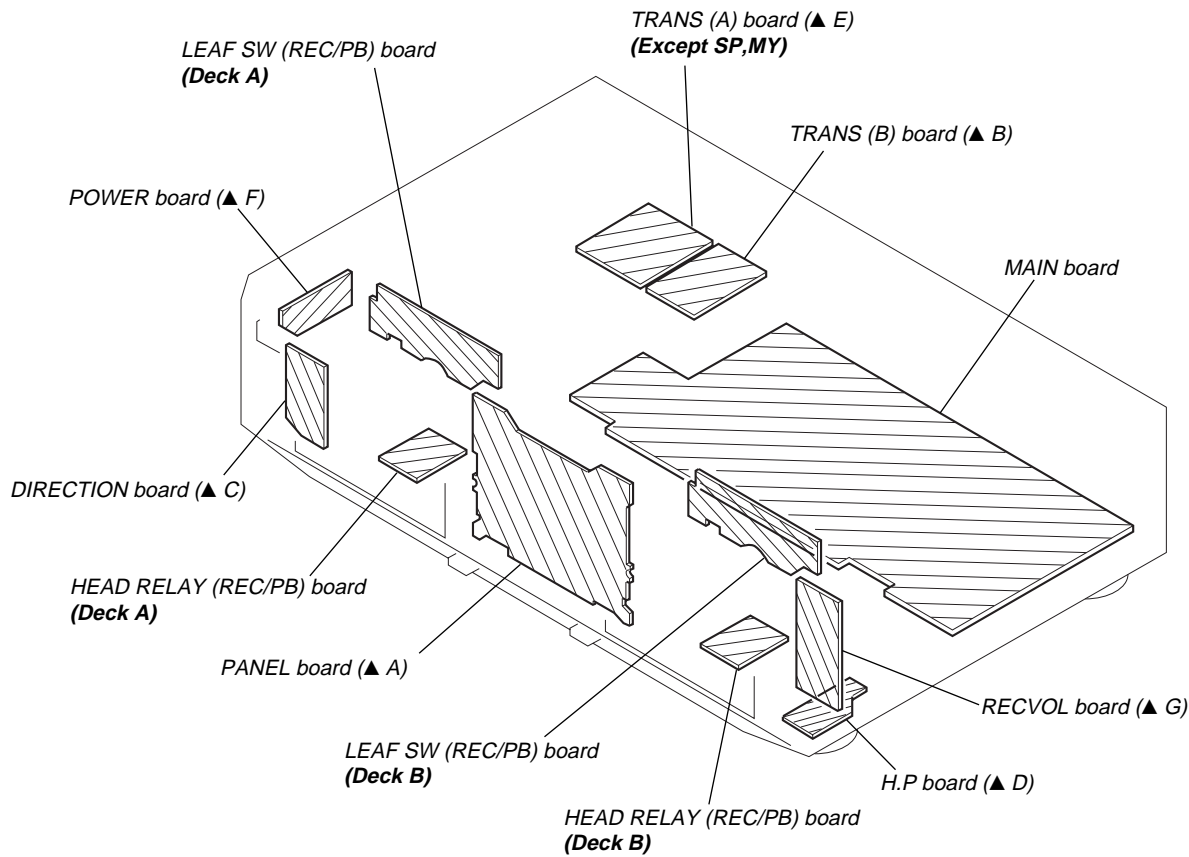
Adjustment Location: main board

[MAIN board] (Component side)



SECTION 6  
DIAGRAMS

6-1. CIRCUIT BOARDS LOCATION



- ▲A to ▲G are including into the mounted panel board.

THIS NOTE IS COMMON FOR PRINTED WIRING  
BOARDS AND SCHEMATIC DIAGRAMS.  
(In addition to this, the necessary note is printed  
in each block.)

For schematic diagrams.

Note:

- All capacitors are in  $\mu\text{F}$  unless otherwise noted. pF:  $\mu\text{pF}$  50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and  $\frac{1}{4}\text{W}$  or less unless otherwise specified.
- % : indicates tolerance.
- $\Delta$  : internal component.
- : fusible resistor.
- : panel designation.

Note:

The components identified by mark  $\Delta$  or dotted line with mark  $\Delta$  are critical for safety. Replace only with part number specified.

Note:

Les composants identifiés par une marque  $\Delta$  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

以阴影和  $\Delta$  标志来识别的零部件，在安全方面具有关键性，因此只能以规定号码的零部件来更换。

- : B+ Line.
- : B- Line.
- : adjustment for repair.
- Voltage is dc with respect to ground under no-signal (detuned) condition.  
no mark : STOP  
( ) : REC  
< > : PB  
\* : Can not be measured.
- Voltages are taken with a VOM (Input impedance 10 M $\Omega$ ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.  
 : PB  
 : REC
- Abbreviation  
CND : Canadian model.  
AUS : Australian model.  
SP : Singapore model.  
MY : Malaysia model.  
CH : Chinese model.

For printed wiring boards.

Note:

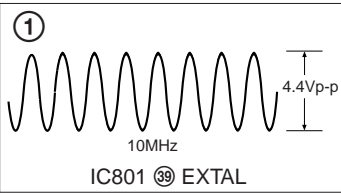
- : parts extracted from the component side.
- : Pattern from the side which enables seeing.
- Transistor of "B" and "C" indication is omitted.

Indication of transistor



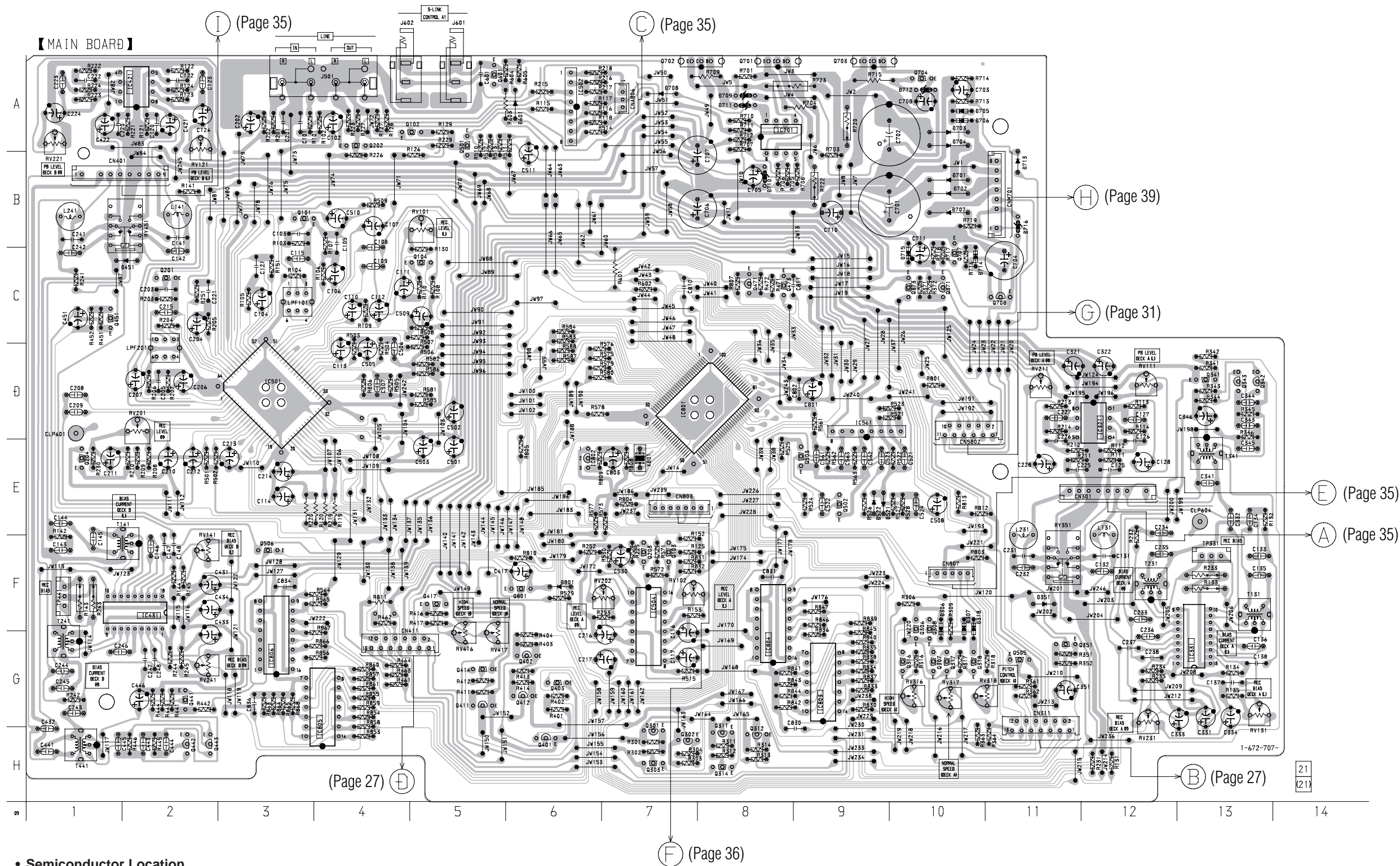
These are omitted

WAVEFORMS  
- MAIN SECTION (3/4) -





6-2. PRINTED WIRING BOARD – MAIN SECTION –  
• See page 15 for Circuit Boards Location.



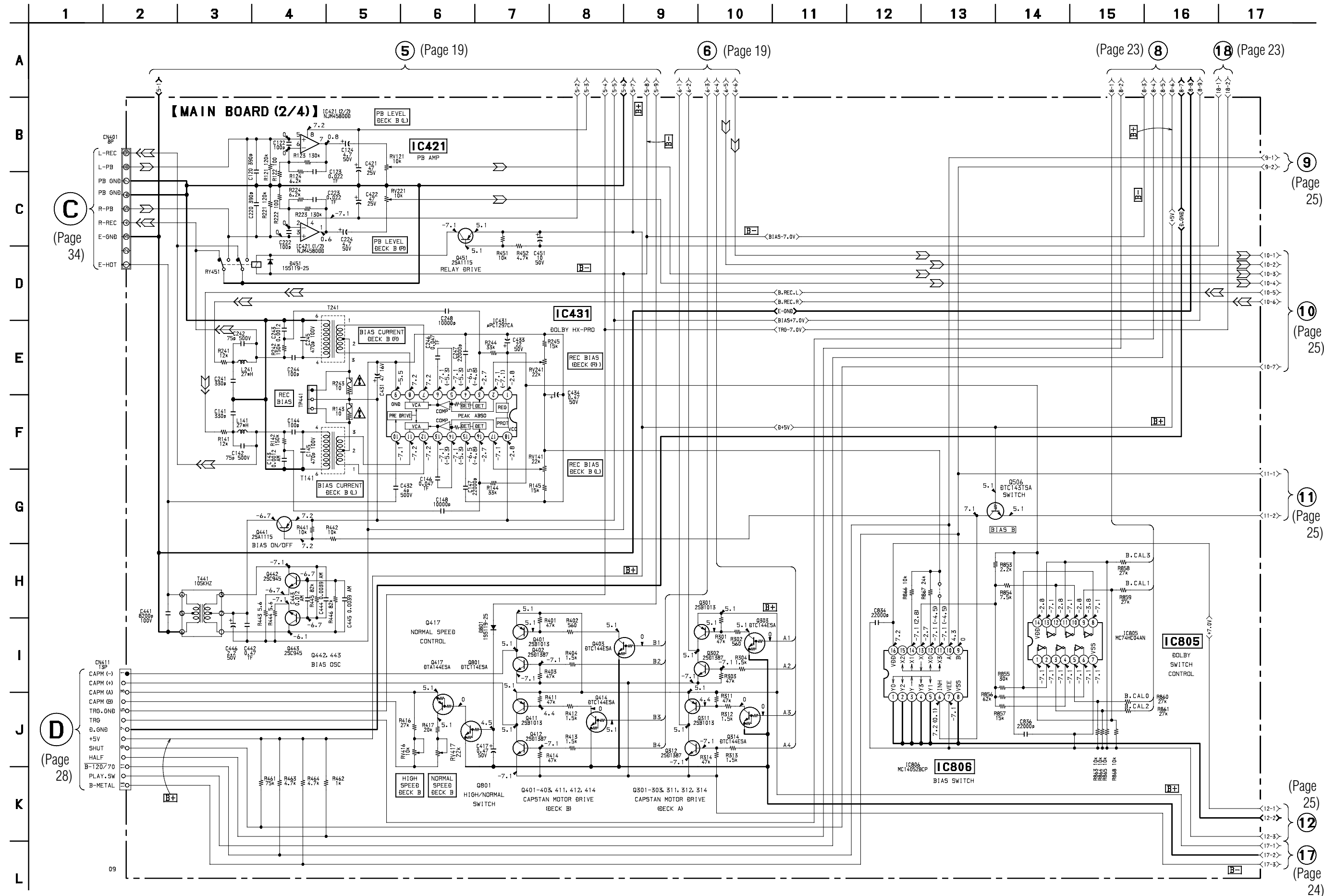
• Semiconductor Location

Ref. No.	Location	Ref. No.	Location	Ref. No.	Location	Ref. No.	Location	Ref. No.	Location	Ref. No.	Location	Ref. No.	Location
D306	F-10	D707	B-10	IC421	A-2	Q101	B-3	Q311	H-8	Q403	G-6	Q505	G-11
D307	F-10	D708	A-7	IC431	F-2	Q102	A-5	Q312	H-8	Q411	G-5	Q506	F-3
D318	F-10	D709	A-8	IC501	D-3	Q103	F-7	Q314	H-8	Q412	G-6	Q601	A-5
D351	F-11	D710	B-8	IC502	A-6	Q104	C-5	Q316	G-10	Q414	G-5	Q701	A-8
D451	C-1	D711	A-8	IC504	F-7	Q201	C-2	Q317	G-10	Q417	F-5	Q702	A-7
D521	E-9	D712	A-10	IC561	D-9	Q202	A-4	Q318	G-10	Q441	G-2	Q703	A-9
D522	E-9	D713	B-11	IC701	A-8	Q203	F-7	Q341	D-13	Q442	H-2	Q704	A-10
D601	A-6	D714	C-10	IC801	D-7	Q204	E-1	Q342	D-13	Q443	H-2	Q707	C-10
D701	B-10	D715	C-10	IC802	E-6	Q301	H-7	Q343	D-13	Q451	C-1	Q708	C-11
D702	B-10	D716	B-11	IC803	G-9	Q302	H-7	Q351	G-11	Q471	C-8	Q801	F-6
D703	A-10	D801	F-6	IC804	G-8	Q303	H-7	Q371	C-10	Q473	C-8		
D704	A-10			IC805	G-4	Q306	F-10	Q373	C-10	Q501	A-5		
D705	A-10	IC321	D-12	IC806	G-3	Q307	G-10	Q401	H-6	Q502	E-9		
D706	A-10	IC331	G-13			Q308	F-10	Q402	G-6	Q503	E-9		



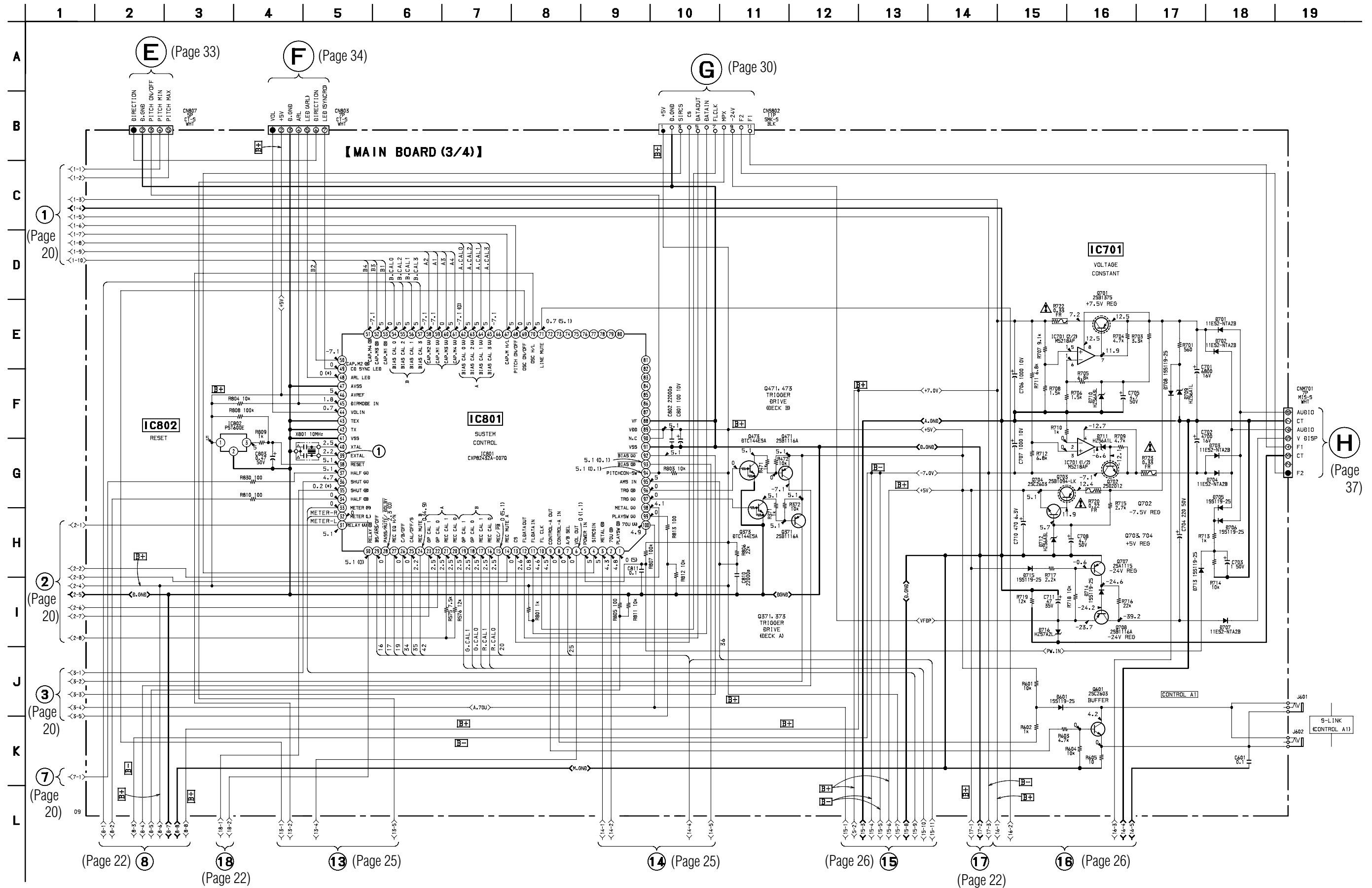


#### 6-4. SCHEMATIC DIAGRAM – MAIN (2/4) SECTION –

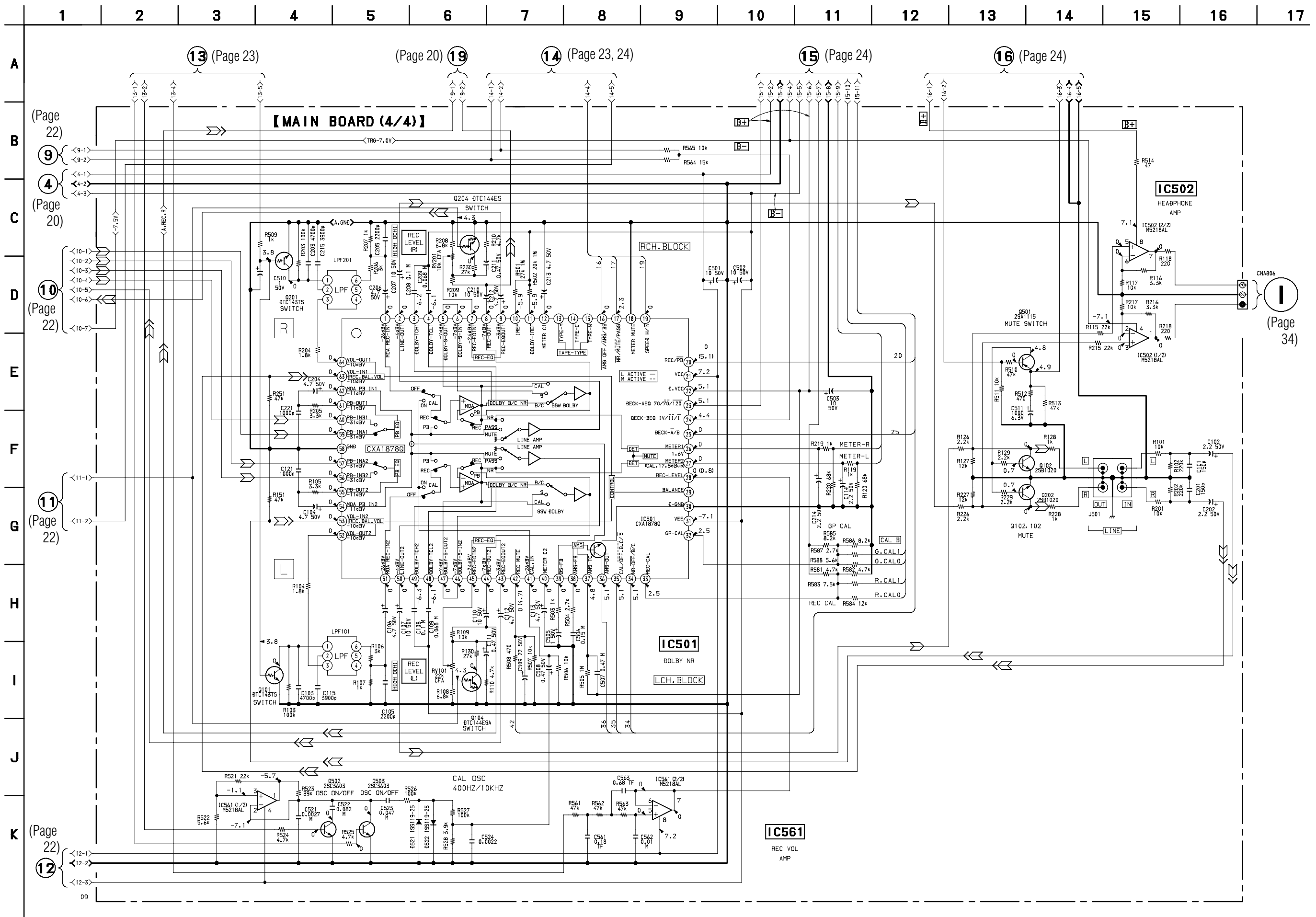


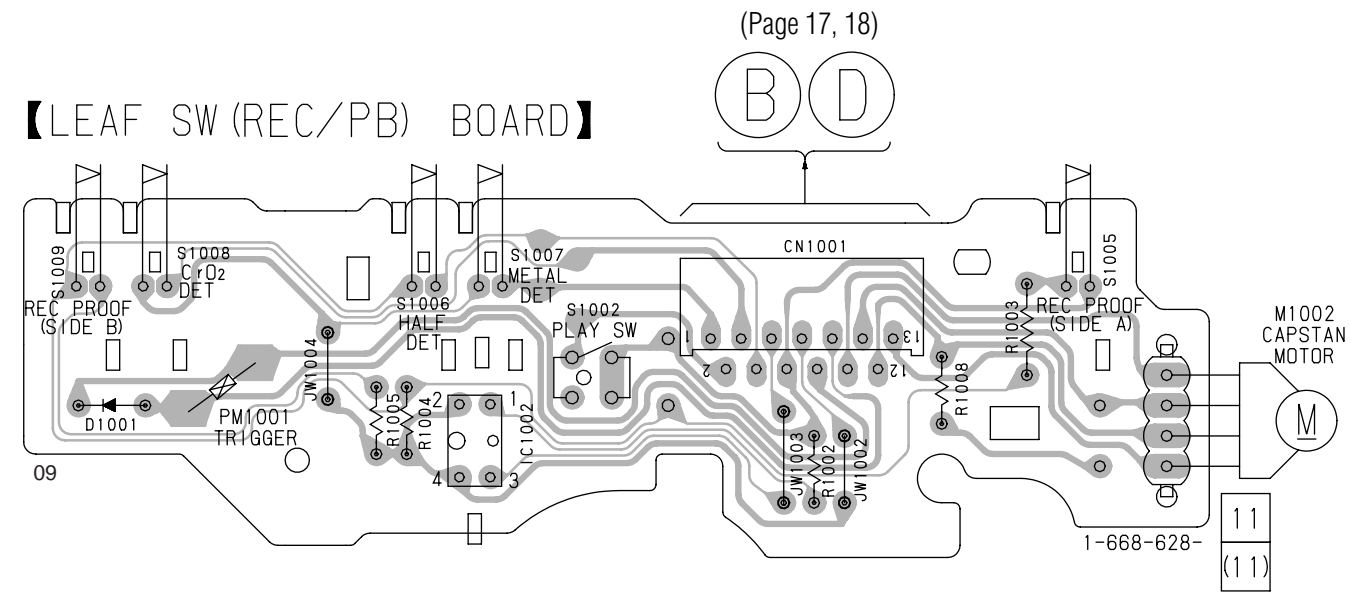
## 6-5. SCHEMATIC DIAGRAM – MAIN (3/4) SECTION –

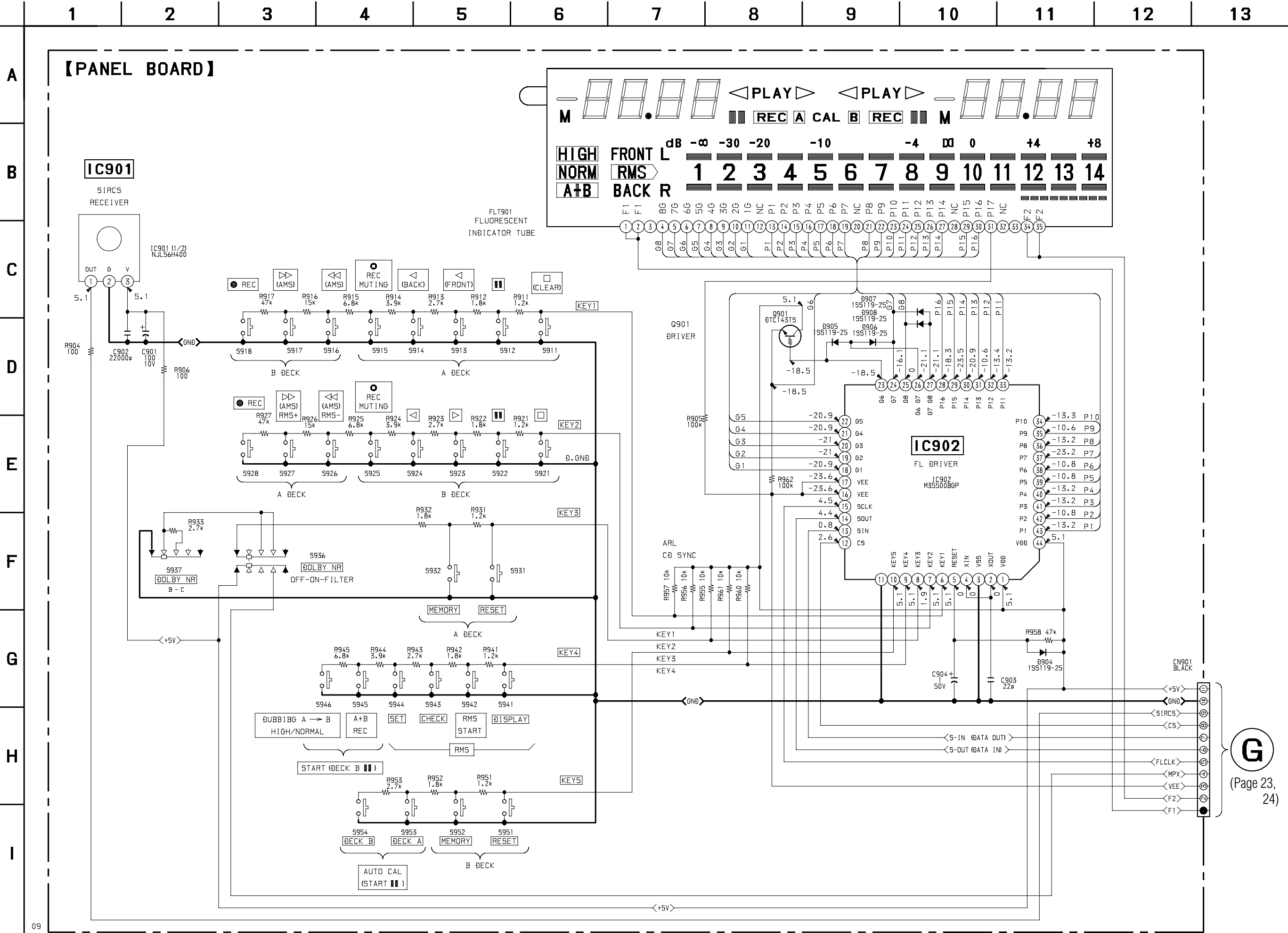
- See page 16 for Waveforms.
- See page 17 for Printed Wiring Board.
- See page 41 for IC Pin Functions.



### 6-6. SCHEMATIC DIAGRAM – MAIN (4/4) SECTION –

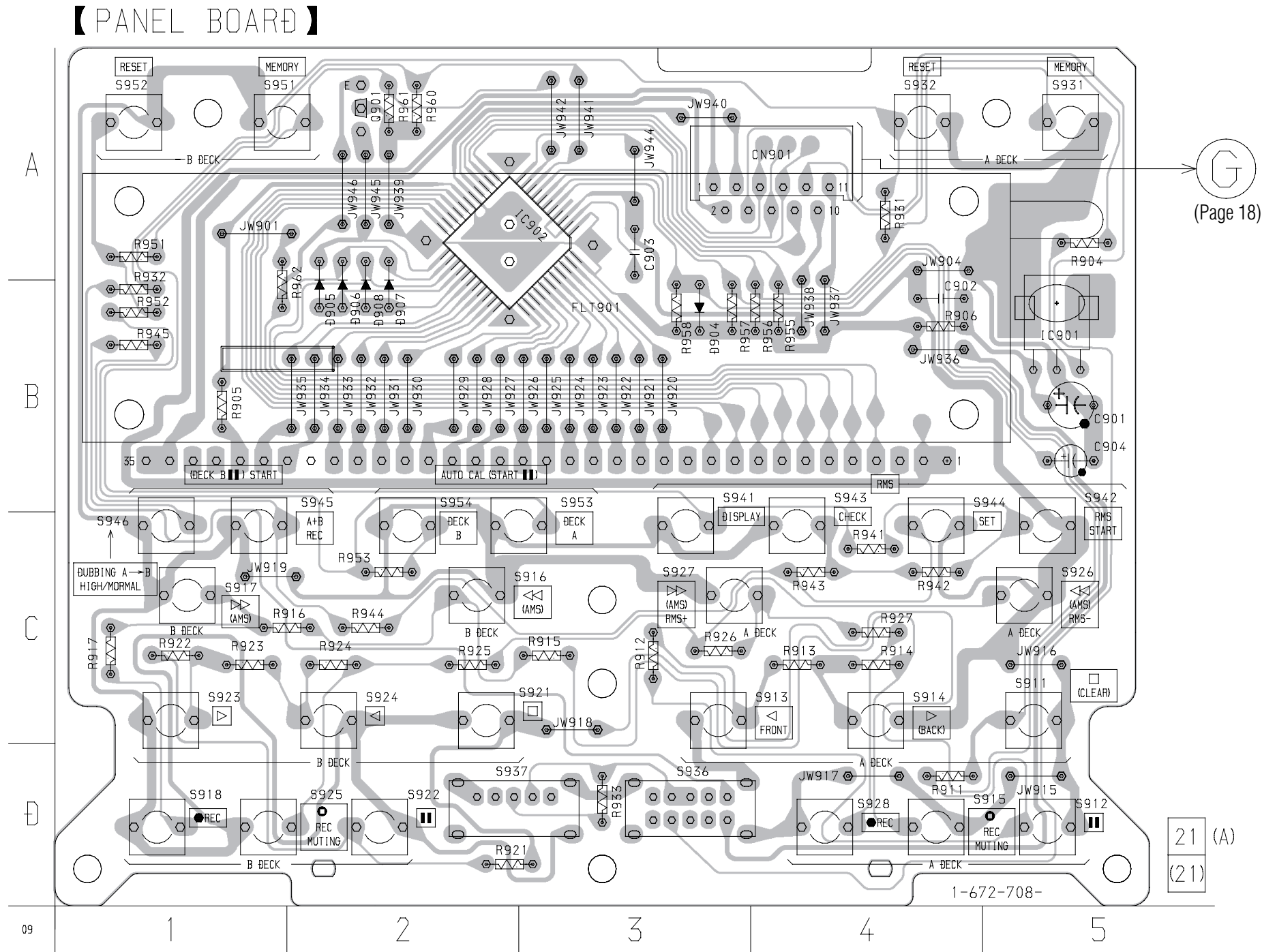








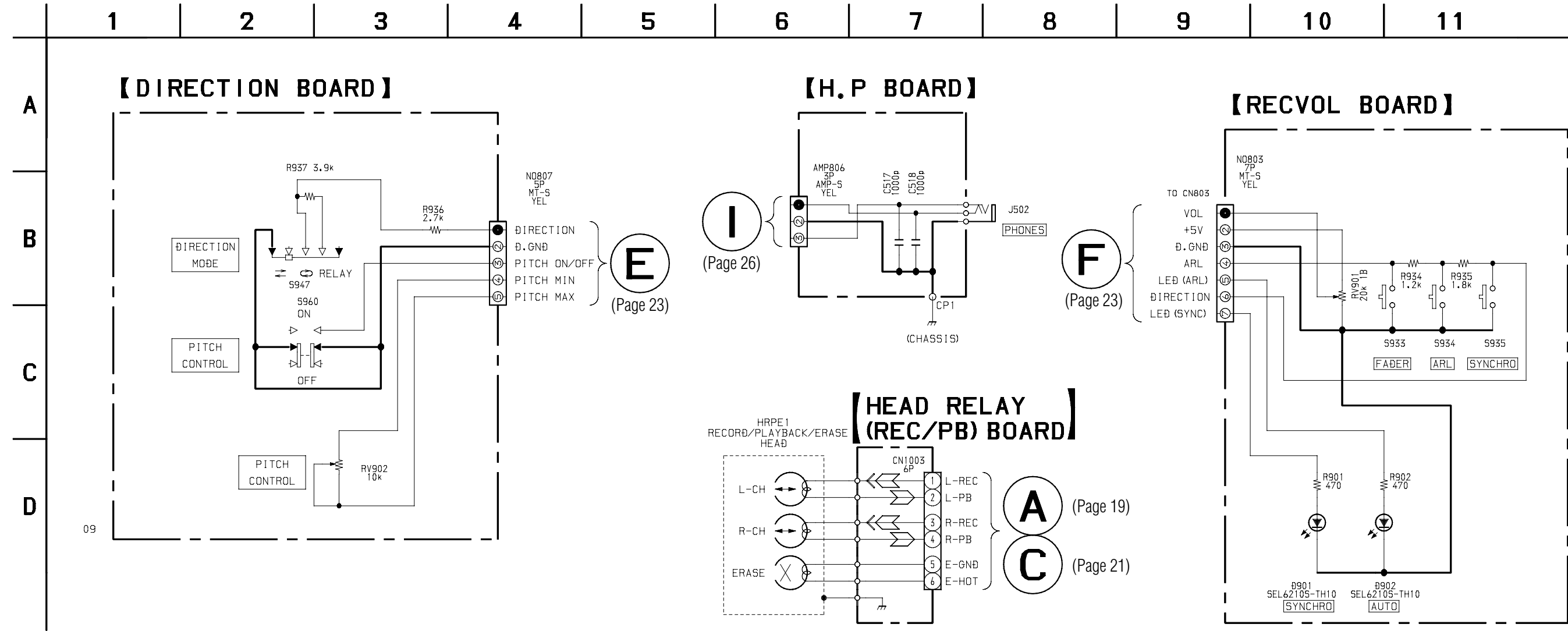
6-10. PRINTED WIRING BOARD – DISPLAY SECTION –  
• See page 15 for Circuit Boards Location.



• Semiconductor  
Location

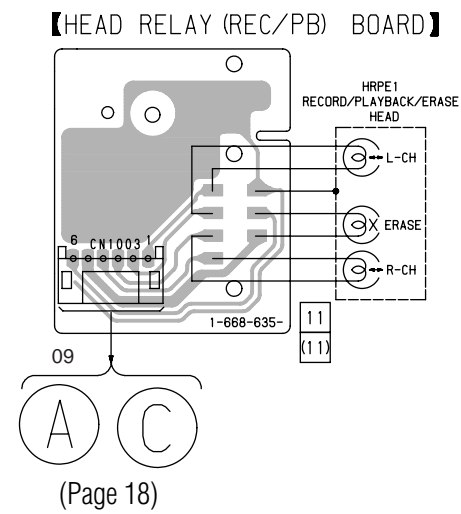
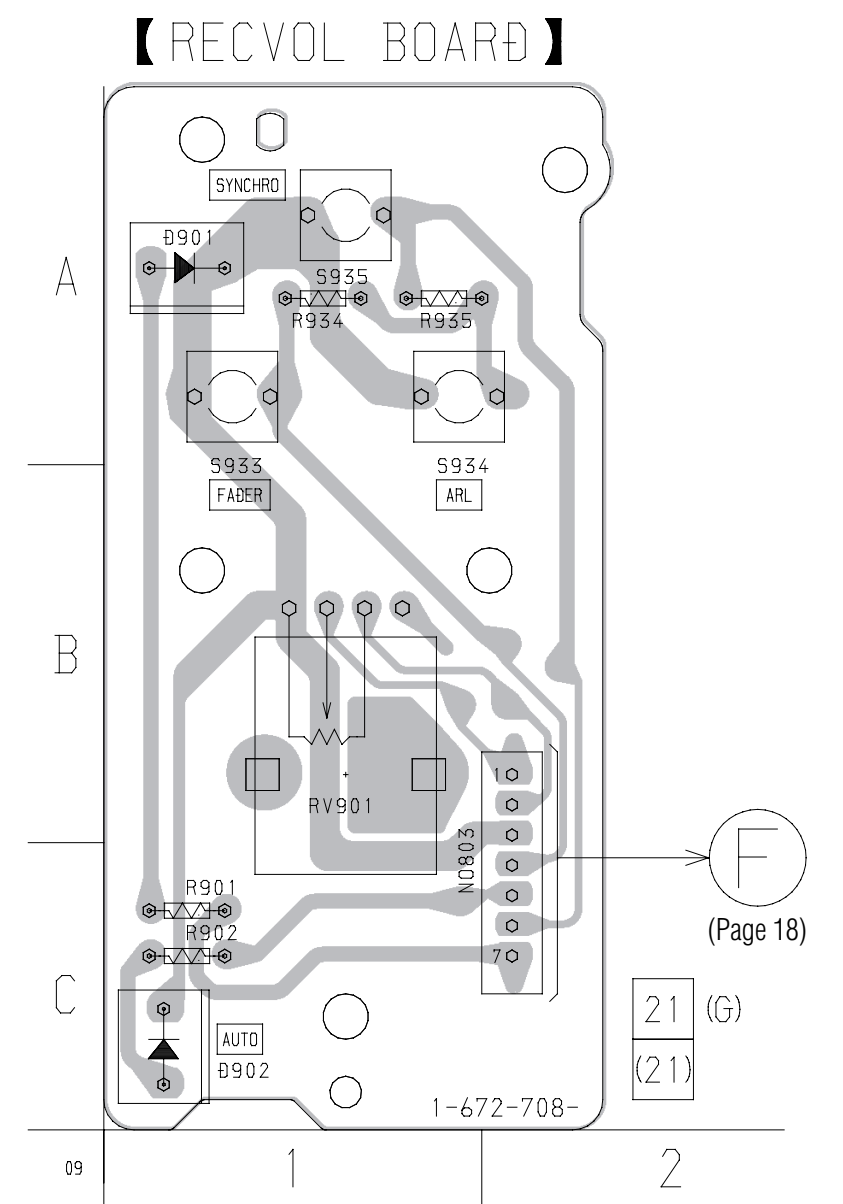
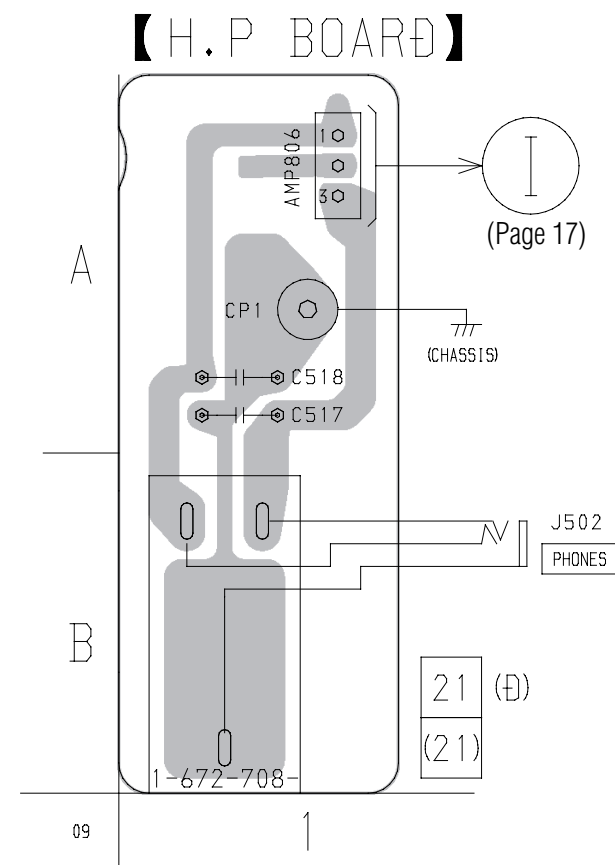
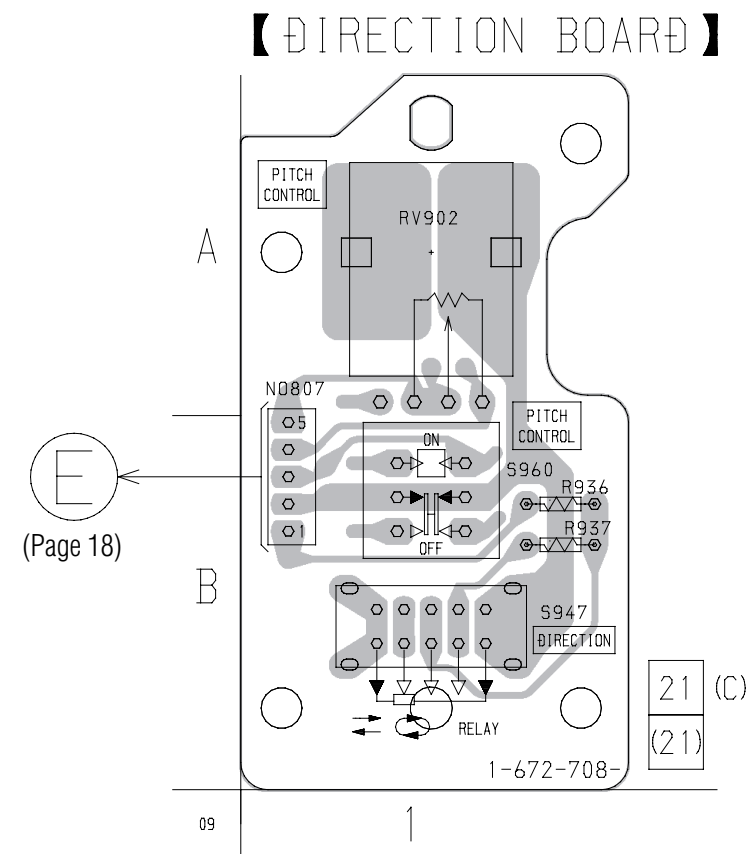
Ref. No.	Location
D904	B-3
D905	B-2
D906	B-2
D906	B-2
D907	B-2
D908	B-2
IC901	B-5
IC902	A-2
Q901	A-2

6-11. SCHEMATIC DIAGRAM – PANEL SECTION –

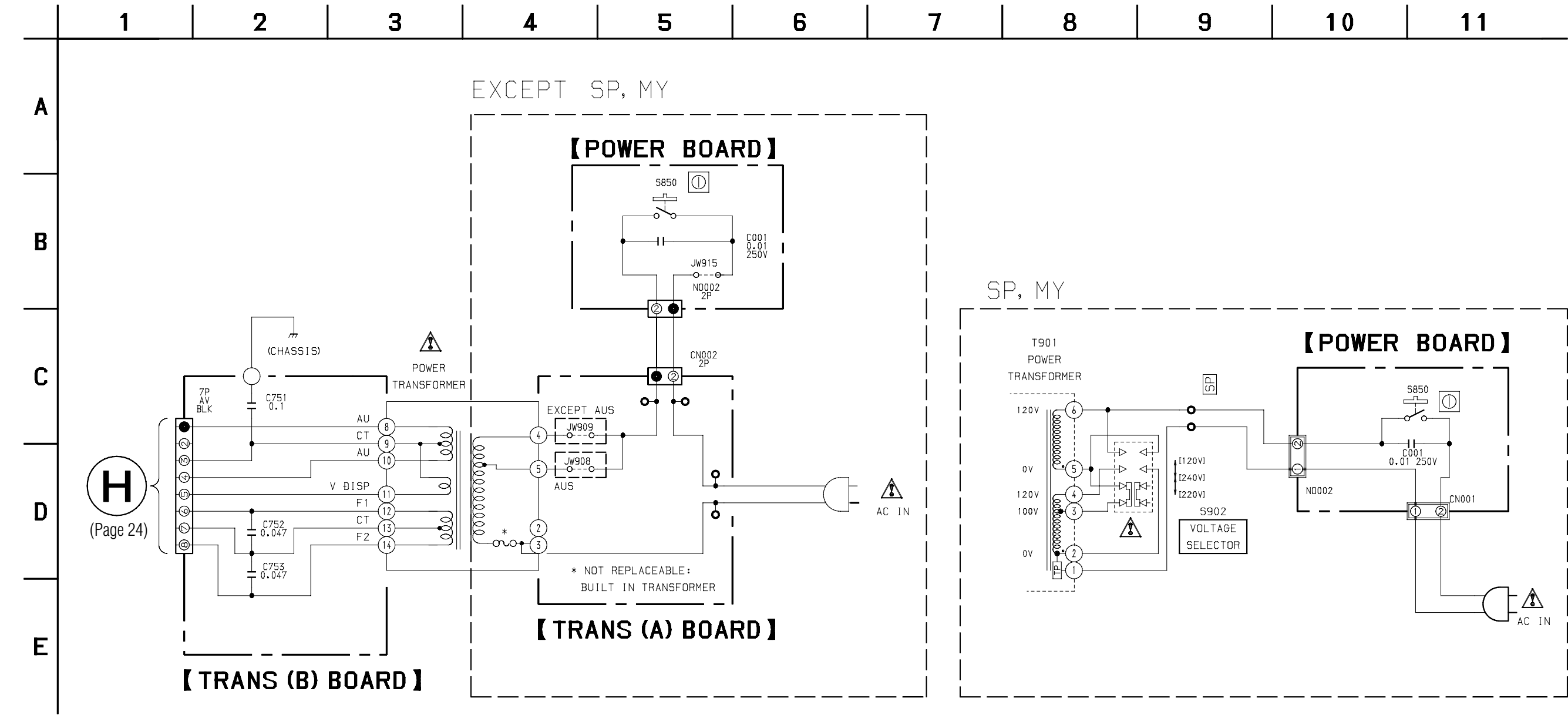




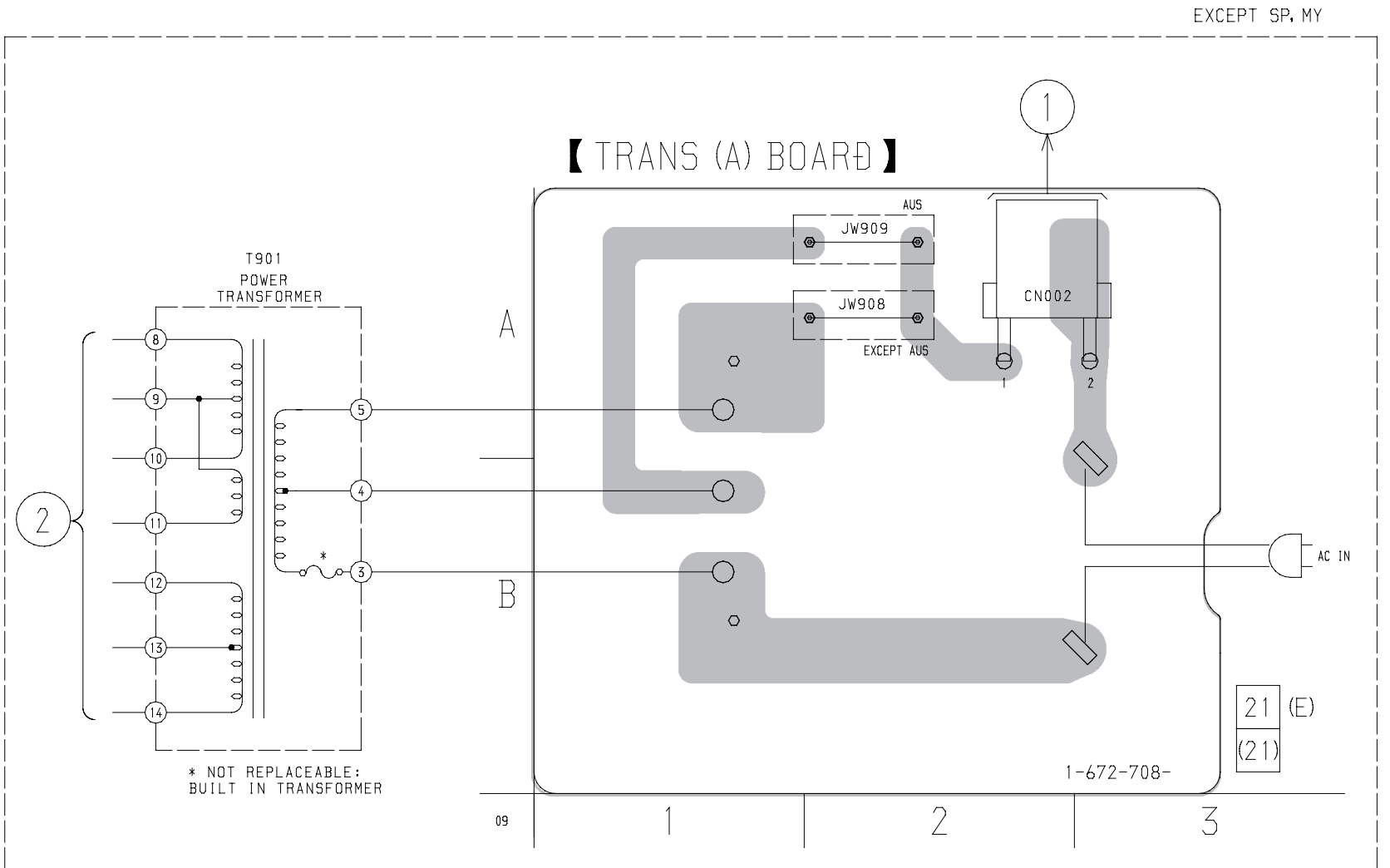
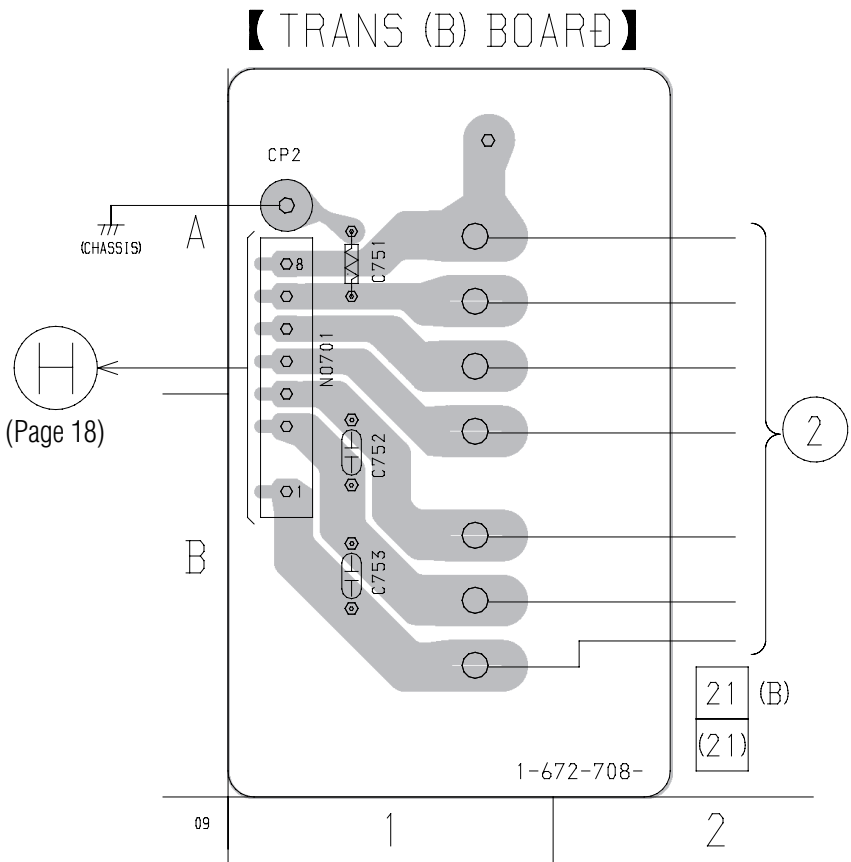
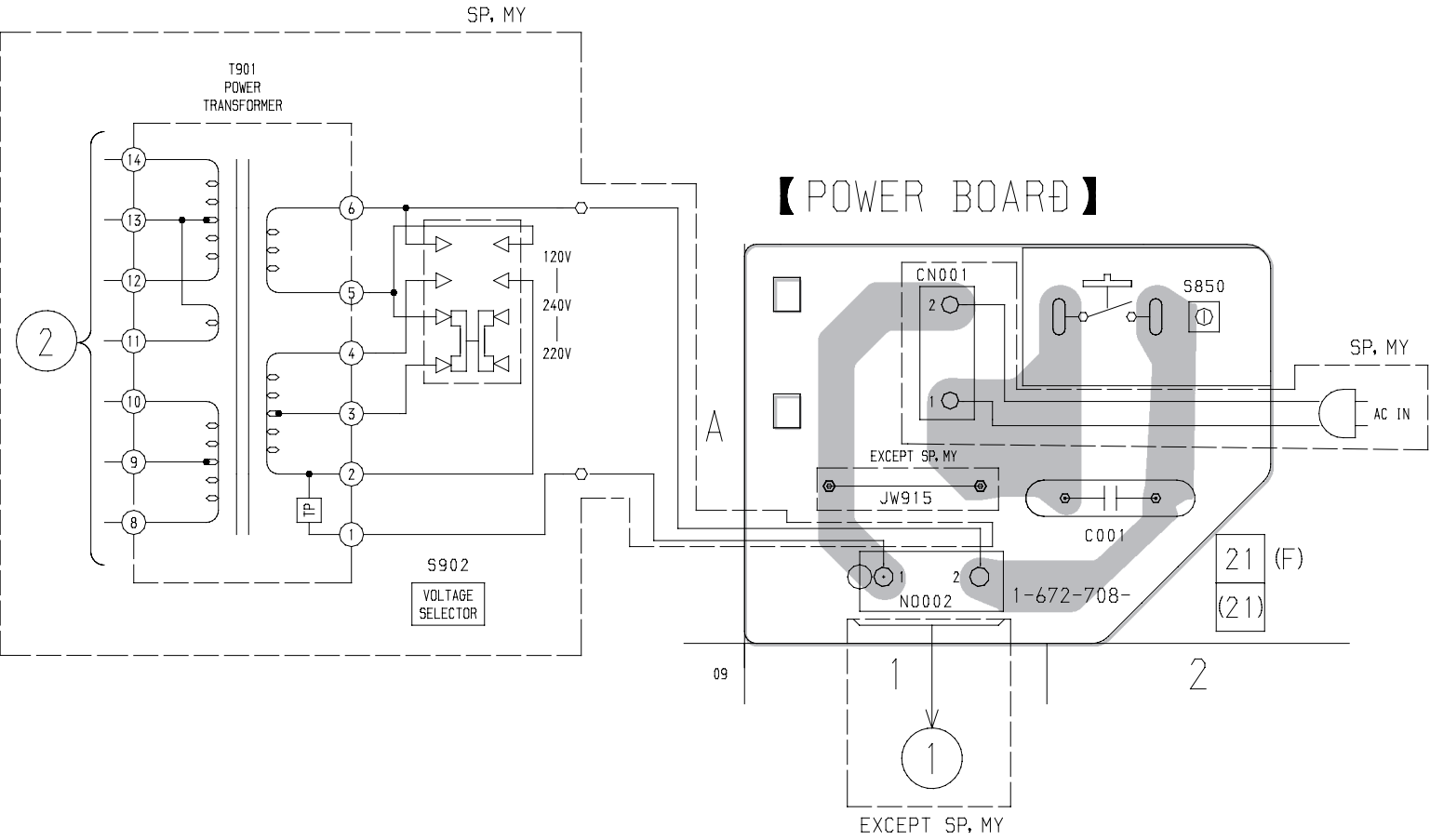
**6-12. PRINTED WIRING BOARD – PANEL SECTION –**  
 • See page 15 for Circuit Boards Location.



6-13. SCHEMATIC DIAGRAM – POWER SECTION –



6-14. PRINTED WIRING BOARD – POWER SECTION –  
• See page 15 for Circuit Boards Location.



6-15. IC PIN FUNCTION

• IC801 SYSTEM CONTROL (CXP82432A-007Q) (MAIN board)

Pin No.	Pin Name	I/O	Function
1	PLAYSW (B)	I	Play switch input (DECK B)
2	70U (B)	O	70μ output (DECK B)
3	METAL (B)	I	METAL input (DECK B)
4	SIRCS IN	I	Sircs signal input
5	POWER IN	I	Power hold input
6	VOL OUT	O	Volume output
7	A/B SEL	I	Playback A/B selector input   “L” : A, “H” : B
8	CONTROL-A IN	I	Control A signal input
9	CONTROL-A OUT	O	Control A signal output
10	FL CLK	I	FL CLK control input
11	FL DATA IN	I	Display control input
12	FL DATA OUT	O	Display control output
13	CS	I	Sircs signal input
14	REC MUTE A	O	Recording mute output   “L” : Mute ON
15	REC /PB	O	Record /playback dolby NR mode selector output   “L” : Playback
16	REC CAL 0 (B)	O	Recoding CAL control 0 (DECK B)
17	REC CAL 1 (B)	O	Recoding CAL control 1 (DECK B)
18	GP CAL 0 (B)	O	GP CAL control 0 (DECK B)
19	GP CAL 1 (B)	O	GP CAL control 1 (DECK B)
20	REC CAL 0 (A)	O	Recoding CAL control 0 (DECK A)
21	REC CAL 1 (A)	O	Recoding CAL control 1 (DECK A)
22	GP CAL 0 (A)	O	GP CAL control 0 (DECK A)
23	GP CAL 1 (A)	O	GP CAL control 1 (DECK A)
23	NC	–	Not used
24	REC MUTE B	O	Recording mute output (DECK B)
25	CAL/OFF/S	O	CAL select switch
26	C/B/OFF	O	Dolby selector   “H” : C, “Open” : B, “L” : Dolby off
27	REC EQ H/N	O	REC EQ high/normal selector output “L” : Dolby
28	PASS/MUTE/DOLBY	O	Audio selector   “H” : Pass , “Open” : Mute, “L” : Recording
29	BS/AMS/OFF	O	AMS amp selector   “H” : BS, “Open” : AMS, “L” : OFF
30	RELAY (B)	I	Relay swich input (DECK B)
31	RELAY (A)	I	Relay swich input (DECK A)
32	METER (L)	I	Meter L-CH input
33	METER (R)	I	Meter R-CH input
34	HALF (B)	I	Half swich input (DECK B)
35	SHUT (B)	I	Capstan motor rotation detection input (DECK B)
36	SHUT (A)	I	Capstan motor rotation detection input (DECK A)
37	HALF (A)	I	Half swich input (DECK A)
38	RESET	I	System reset input
39	EXTAL	O	System clock oscillator output (10 MHz)
40	XTAL	I	System clock oscillator input (10 MHz)
41	VSS	–	Ground
42	TX	–	
43	TEX	–	
44	VOL IN	I	Auto rec level control input
45	DIR MODE IN	I	Key input
46	AVREF	–	Connected to power supply
47	AV SS	–	Ground
48	AR LED	O	AUTO LED driver   “H” : ON



Pin No.	Pin Name	I/O	Function
49	CD SYNC LED	O	SYNCHRO LED driver   “L” : ON
50	CAP, M2 (B)	O	Capstan motor driver (DECK B)
51	CAP, M4 (B)	O	
52	CAP, M3 (B)	O	
53	CAP, M1 (B)	O	
54	BIAS CAL 0 (B)	O	BIAS CAL control 0 (DECK B)
55	BIAS CAL 1 (B)	O	BIAS CAL control 1 (DECK B)
56	BIAS CAL 2 (B)	O	BIAS CAL control 2 (DECK B)
57	BIAS CAL 3 (B)	O	BIAS CAL control 3 (DECK B)
58	CAP, M2 (A)	O	Capstan motor driver (DECK A)
59	CAP, M1 (A)	O	
60	CAP, M3 (A)	O	
61	CAP, M4 (A)	O	
62	BIAS CAL 0 (A)	O	BIAS CAL control 0 (DECK A)
63	BIAS CAL 1 (A)	O	BIAS CAL control 1 (DECK A)
64	BIAS CAL 2 (A)	O	BIAS CAL control 2 (DECK A)
65	BIAS CAL 3 (A)	O	BIAS CAL control 3 (DECK A)
66	NC	–	Not used
67	CAP, M H/L	O	Capstan motor high/normal selector output   “L” : ON
68	PITCH ON/OFF	O	Pitch control ON/OFF output
69	OSC ON/OFF	O	CAL detection ON/OFF select output
70	OSC H/L	O	CAL oscillator ON/OFF select output
71	LINE MUTE	O	Line mute ON/OFF control output
72 to 87	NC	–	Not used
88	VF	–	Ground
89	VDD	–	Power supply (+5V)
90	N.C	–	Not used
91	VSS	–	Ground
92	BIAS (A)	O	Bias ON/OFF output (DECK A)
93	BIAS (B)	O	Bias ON/OFF output (DECK B)
94	PITCH CON-SW	O	Pitch control ON/OFF control output   “L” : ON
95	AMS IN	I	AMS amp selector
96	TRG (B)	O	Trigger control output (DECK B)
97	TRG (A)	O	Trigger control output (DECK A)
98	NC	–	Not used
99	PLAYSW (A)	I	Play swich input (DECK A)
100	70U (A)	I	70μ output (DECK A)


# SECTION 7 EXPLODED VIEWS


## NOTE:

- Items marked “\*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

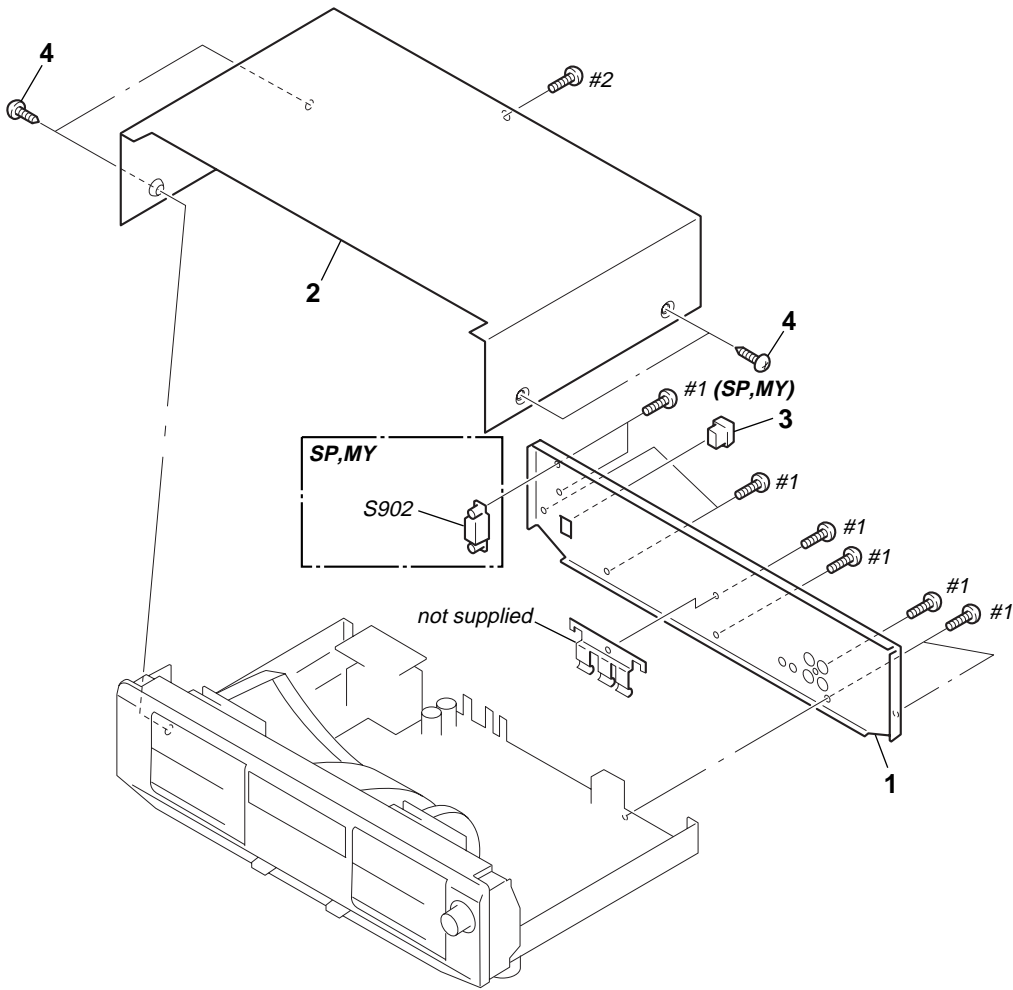
- Abbreviation  
CND : Canadian model  
SP : Singapore model  
MY : Malaysia model  
AUS : Australian model  
CH : Chinese model


The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

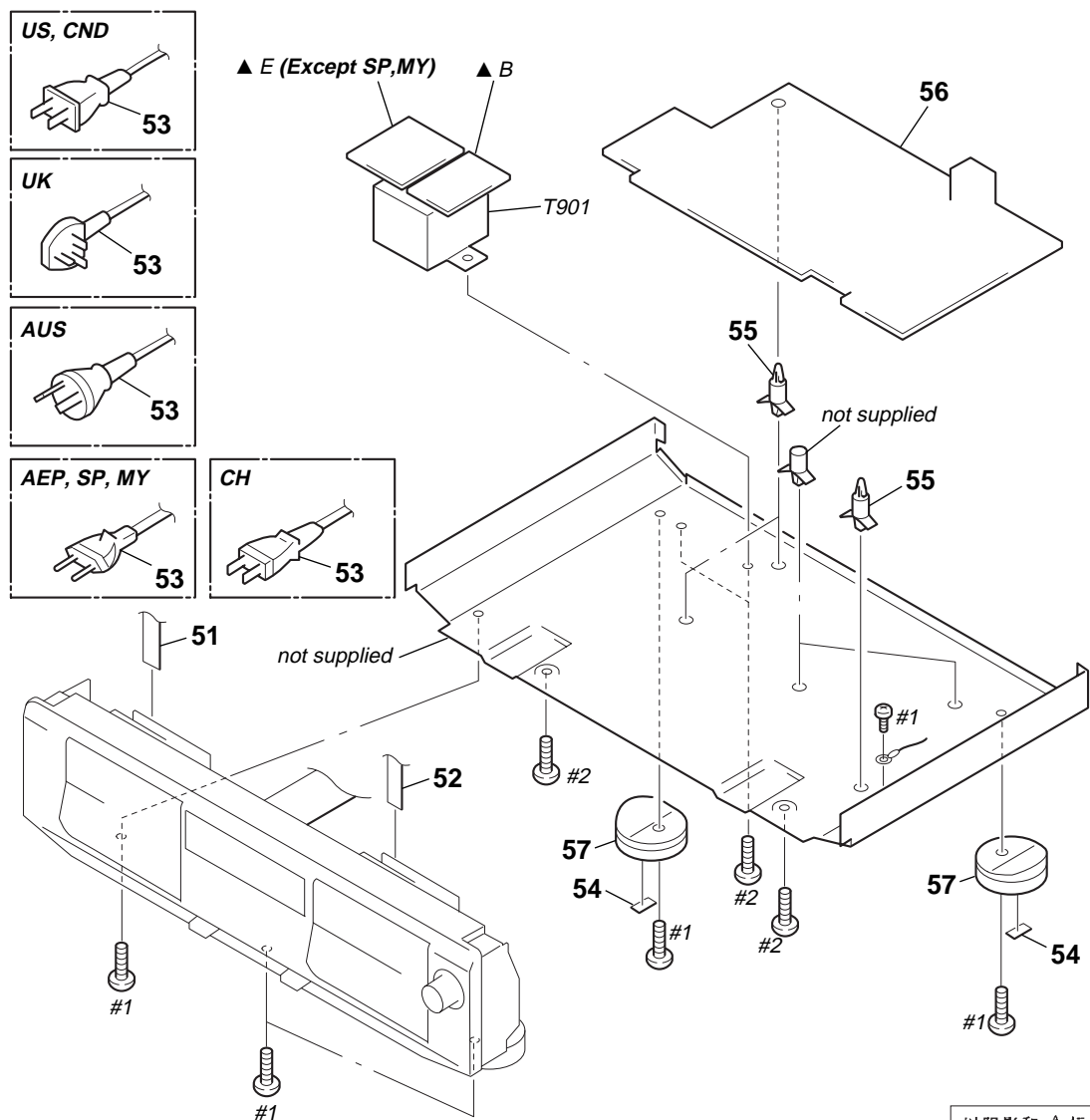
以阴影和  标志来识别的零部件，在安全方面具有关键性。因此只能以规定号码的零部件来更换。

## 7-1. CASE SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
* 1	3-032-412-01	PANEL, BACK (US)		* 2	3-935-634-01	CASE (410726)	
* 1	3-032-412-11	PANEL, BACK (CND)		3	3-703-244-00	BUSHING (2104), CORD (EXCEPT US,CND))	
* 1	3-032-412-21	PANEL, BACK (AEP)		* 3	3-703-571-11	BUSHING (S)(4516), CORD (CND)	
* 1	3-032-412-31	PANEL, BACK (UK)					
* 1	3-032-412-41	PANEL, BACK (AUS)		3	4-966-267-11	BUSHING (FBS001), CORD (US)	
* 1	3-032-412-51	PANEL, BACK (SP,MY)		4	3-363-099-01	SCREW (CASE 3 TP2)	
* 1	3-032-412-61	PANEL, BACK (CH)		 S902	1-692-155-11	SELECTOR, POWER VOLTAGE (SP,MY)	

7-2. CHASSIS SECTION



以阴影和 ▲ 标志来识别的零部件，在安全方面具有关键性，因此只能以规定号码的零部件来更换。

- ▲ B and ▲ E are including into the mounted panel board (Ref. No.163).
- ▲ B TRANS (B) board
- ▲ E TRANS (A) board (EXCEPT SP, MY)

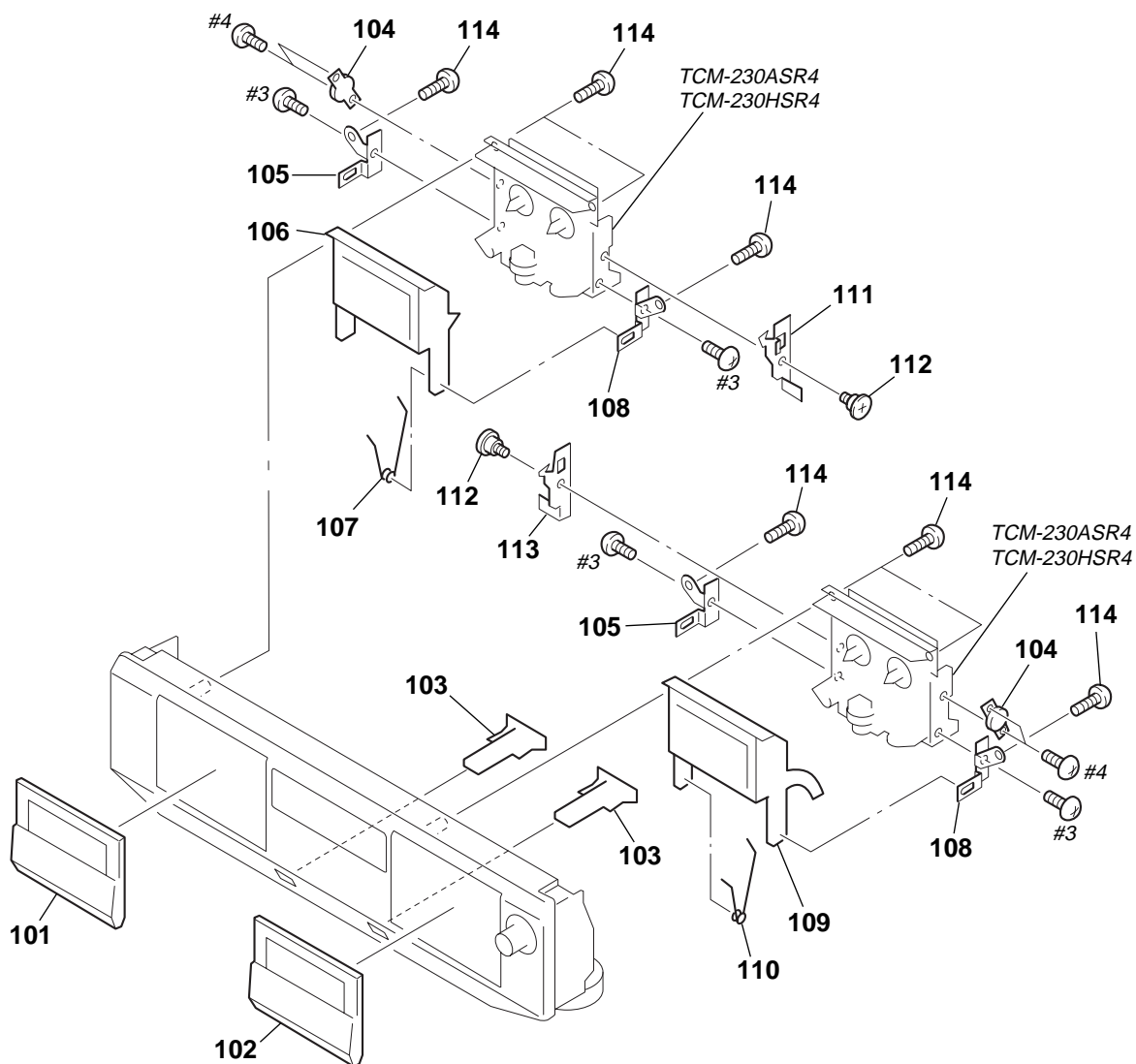
The components identified by mark ▲ or dotted line with mark ▲ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque ▲ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
51	1-751-086-11	WIRE (FLAT TYPE)(13 CORE)(180mm)	
52	1-769-976-11	WIRE (FLAT TYPE)(13 CORE)(140mm)	
▲ 53	1-558-945-21	CORD, POWER (POLAR.SPT-1)(CND)	
▲ 53	1-575-651-21	CORD, POWER (SP,MY)	
▲ 53	1-751-535-11	CORD, POWER (UK)	
▲ 53	1-777-107-11	CORD, POWER (AEP)	
▲ 53	1-777-218-11	CORD, POWER (AUS)	
▲ 53	1-783-108-11	CORD, POWER (CH)	
▲ 53	1-783-531-51	CORD, POWER (US)	

Ref. No.	Part No.	Description	Remark
* 54	4-978-398-21	CUSHION	
* 55	3-346-265-31	HOLDER, PC BOARD	
* 56	A-2007-811-A	MAIN BOARD, COMPLETE	
57	4-977-591-01	FOOT (F50150S)(EXCEPT US,CND)	
57	4-977-591-11	FOOT (F50150S)(US,CND)	
▲ T901	1-431-786-12	TRANSFORMER, POWER (AEP,UK,AUS,CH)	
▲ T901	1-431-789-12	TRANSFORMER, POWER (SP,MY)	
▲ T901	1-431-788-12	TRANSFORMER, POWER (US,CND)	

### 7-3. CASSETTE HOLDER SECTION

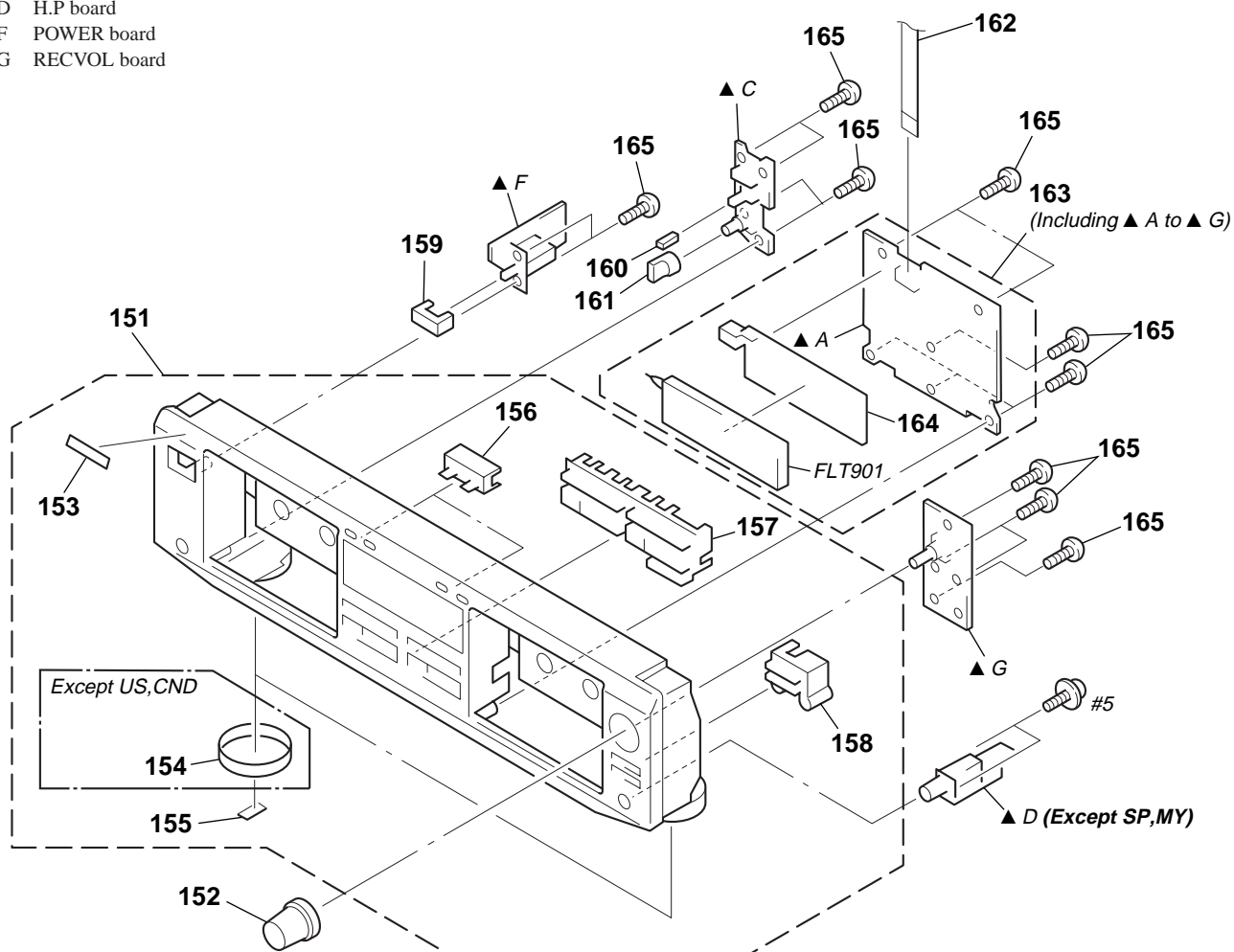


Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
101	X-3377-097-1	LID (A) ASSY, CASSETTE		109	X-3375-107-1	HOLDER (L) ASSY, CASSETTE	
102	X-3376-716-1	LID (B) ASSY, CASSETTE		110	3-019-454-01	SPRING (L), LOADING	
103	3-931-427-31	BUTTON (EJ)					
104	3-022-410-01	DAMPER		111	3-019-453-01	LEVER (LOCK R)	
105	3-019-450-01	PLATE (L), FULCRUM		112	3-019-456-01	SCREW, STEP	
106	X-3375-103-1	HOLDER (R) ASSY, CASSETTE		113	3-019-452-01	LEVER (LOCK L)	
107	3-019-455-01	SPRING (R), LOADING		114	4-951-620-01	SCREW (2.6X8), +BVTP	
108	3-019-451-01	PLATE (R), FULCRUM					

## 7-4. FRONT PANEL SECTION

▲ A to ▲ G are including into the mounted panel board (Ref. No.163).

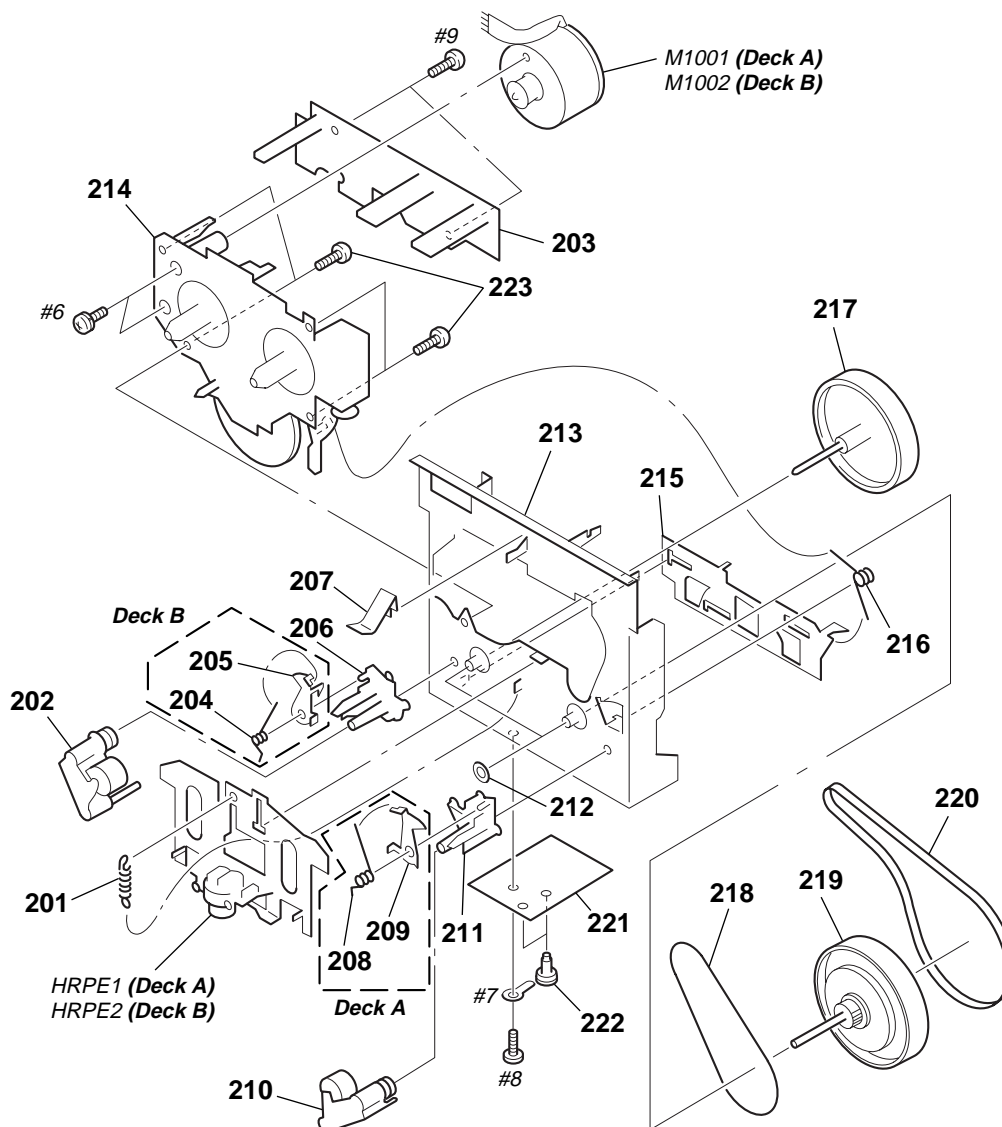
- ▲ A PANEL board
- ▲ C DIRECTION board
- ▲ D H.P board
- ▲ F POWER board
- ▲ G RECVOL board



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
151	X-3376-711-1	PANEL ASSY, FRONT (EXCEPT US,CND)		159	3-931-429-41	BUTTON (POWER)	
151	X-3376-762-1	PANEL ASSY, FRONT (US,CND)		160	3-380-952-21	BUTTON	
152	3-021-239-01	KNOB (REC)		161	3-931-378-01	KNOB (F10)	
153	4-996-698-41	EMBLEM, SONY		162	1-769-950-11	WIRE (FLAT TYPE)(11 CORE)	
154	4-977-593-01	RING (DIA. 50), ORNAMENTAL (EXCEPT US,CND)		* 163	A-2007-812-A	PANEL BOARD, COMPLETE (EXCEPT SP,MY)	
* 155	4-978-398-21	CUSHION		* 163	A-2007-816-A	PANEL BOARD, COMPLETE (SP,MY)	
156	3-021-232-01	BUTTON (COUNTER)		* 164	3-377-337-11	HOLDER (FL)	
157	3-021-230-01	BUTTON (FUNCTION)		165	4-951-620-01	SCREW (2.6X8), +BVTP	
158	3-931-241-21	BUTTON (SYNCHRO)		FLT901	1-517-263-11	INDICATOR TUBE, FLUORESCENT	



## 7-5. TAPE MECHANISM SECTION (TCM-230ASR4/HSR4)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
201	3-016-574-11	SPRING (HEAD), TENSION		216	3-016-575-11	SPRING, TORSION	
202	X-3374-156-1	PINCH LEVER (REV) ASSY		217	X-3376-933-1	FLYWHEEL (REV) ASSY	
* 203	1-668-628-11	LEAF SW (REC/PB) BOARD (DECK A/B)		218	3-024-405-01	BELT (FR2)	
204	3-032-809-02	SPRING (L), TORSION (DECK B)		219	X-3376-932-1	FLYWHEEL (FWD) ASSY	
205	3-016-572-01	LEVER (EJECT PREVENTION L)(DECK B)		220	3-016-570-01	BELT (CAPSTAN)	
206	3-016-565-01	BASE (PINCH LEVER REV)		* 221	1-668-635-11	HEAD RELAY (REC/PB) BOARD (DECK A/B)	
207	3-016-567-01	SPRING (CASSETTE), LEAF		222	3-036-914-01	RIVET, PUSH	
208	3-032-810-02	SPRING (R), TORSION (DECK A)		223	3-030-823-01	SCREW (+BVT)(2X3.5)	
209	3-016-573-01	LEVER (EJECT PREVENTION R)(DECK A)		HRPE1	A-2004-646-C	DECK ASSY, HEAD (RECORD/PLAYBACK/ERASE) (DECK A)	
210	X-3374-155-1	PINCH LEVER (FWD) ASSY		HRPE2	A-2004-646-C	DECK ASSY, HEAD (RECORD/PLAYBACK/ERASE) (DECK B)	
211	3-016-564-01	BASE (PINCH LEVER FWD)		M1001	A-2004-644-A	MOTOR ASSY, CAPSTAN (DECK A)	
212	3-019-208-01	WASHER, STOPPER		M1002	A-2004-644-A	MOTOR ASSY, CAPSTAN (DECK B)	
* 213	X-3374-828-1	CHASSIS ASSY, MECHANICAL					
214	A-2004-699-A	MECHANICAL BLOCK ASSY					
215	3-016-566-01	SLIDER, REVERSE					

## HEAD RELAY (REC/PB)

## LEAF SW (REC/PB)

## MAIN

Note:

以阴影和  $\Delta$  标志来识别的零部件，在安全方面具有关键性，因此只能以规定号码的零部件来更换。

The components identified by mark  $\Delta$  or dotted line with mark  $\Delta$  are critical for safety.  
Replace only with part number specified.

Les composants identifiés par une marque  $\Delta$  sont critiques pour la sécurité.  
Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked “\*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- RESISTORS  
All resistors are in ohms  
METAL: Metal-film resistor  
METAL OXIDE: Metal Oxide-film resistor  
F : nonflammable

## • SEMICONDUCTORS

In each case, u:  $\mu$ , for example:

uA...:  $\mu$  A..., uPA...:  $\mu$  PA..., uPB...:  $\mu$  PB...,  
uPC...:  $\mu$  PC..., uPD...:  $\mu$  PD...

## • CAPACITORS

uF :  $\mu$  F

## • COILS

uH :  $\mu$  H

## • Abbreviation

CND : Canadian model

SP : Singapore model

MY : Malaysia model

AUS : Australian model

CH : Chinese model

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
*	1-668-635-11	HEAD RELAY (REC/PB) BOARD *****		C106	1-126-963-11	ELECT 4.7uF 20%	50V
		< CONNECTOR >		C107	1-126-964-11	ELECT 10uF 20%	50V
	CN1003	1-564-722-11 PIN, CONNECTOR (SMALL TYPE) 6P		C108	1-130-495-00	MYLAR 0.1uF 5%	50V
*****				C109	1-137-375-11	FILM 0.068uF 5%	50V
*	1-668-628-11	LEAF SWITCH (REC/PB) BOARD *****		C110	1-126-964-11	ELECT 10uF 20%	50V
	CN1001	1-568-444-11 SOCKET, CONNECTOR 13P		C111	1-126-959-11	ELECT 0.47uF 20%	50V
		< DIODE >		C112	1-126-963-11	ELECT 4.7uF 20%	50V
	D1001	8-719-991-33 DIODE 1SS133T-77		C113	1-126-963-11	ELECT 4.7uF 20%	50V
		< IC >		C114	1-126-961-11	ELECT 2.2uF 20%	50V
	IC1002	8-749-014-38 IC PHOTO INTERRUPTER SG-264		C115	1-137-436-11	FILM 0.0039uF 5%	50V
		< RESISTOR >		C116	1-126-959-11	ELECT 0.47uF 20%	50V
R1002	1-249-409-11	CARBON 220 5% 1/4W F		C117	1-126-963-11	ELECT 4.7uF 20%	50V
R1003	1-249-414-11	CARBON 560 5% 1/4W F		C120	1-162-289-31	CERAMIC 390PF 10%	50V
R1004	1-247-834-11	CARBON 1.3K 5% 1/4W		C121	1-162-294-31	CERAMIC 0.001uF 10%	50V
R1005	1-247-818-91	CARBON 300 5% 1/4W		C122	1-162-282-31	CERAMIC 100PF 10%	50V
		< SWITCH >		C123	1-137-372-11	FILM 0.022uF 5%	50V
S1002	1-570-953-11	SWITCH, PUSH (1 KEY)(PLAY SW)		C124	1-126-963-11	ELECT 4.7uF 20%	50V
S1005	1-771-205-11	SWITCH, LEAF (REC PROOF (SIDE A))		C125	1-162-289-31	CERAMIC 390PF 10%	50V
S1006	1-771-333-11	SWITCH, LEAF (HALF DET)		C126	1-162-282-31	CERAMIC 100PF 10%	50V
S1007	1-771-205-11	SWITCH, LEAF (METAL DET)		C127	1-137-372-11	FILM 0.022uF 5%	50V
S1008	1-771-205-11	SWITCH, LEAF (CrO2 DET)		C128	1-126-963-11	ELECT 4.7uF 20%	50V
S1009	1-771-205-11	SWITCH, LEAF (REC PROOF (SIDE B))		C131	1-162-288-31	CERAMIC 330PF 10%	50V
*****				C132	1-107-609-11	CERAMIC 75PF 5%	500V
*	A-2007-811-A	MAIN BOARD, COMPLETE *****		C133	1-137-433-11	FILM 0.0012uF 5%	50V
		< CAPACITOR >		C134	1-102-973-00	CERAMIC 100PF 5%	50V
C101	1-162-284-31	CERAMIC 150PF 10% 50V		C135	1-136-356-11	FILM 470PF 5%	100V
C102	1-126-961-11	ELECT 2.2uF 20% 50V		C136	1-137-374-11	FILM 0.047uF 5%	50V
C103	1-162-600-11	CERAMIC 0.0047uF 30% 16V		C137	1-161-494-00	CERAMIC 0.022uF 25V	
C104	1-126-963-11	ELECT 4.7uF 20% 50V		C138	1-162-306-11	CERAMIC 0.01uF 20%	16V
C105	1-162-302-11	CERAMIC 0.0022uF 20% 16V		C141	1-162-288-31	CERAMIC 330PF 10%	50V
				C142	1-107-609-11	CERAMIC 75PF 5%	500V
				C143	1-137-433-11	FILM 0.0012uF 5%	50V
				C144	1-102-973-00	CERAMIC 100PF 5%	50V
				C145	1-136-356-11	FILM 470PF 5%	100V
				C146	1-137-374-11	FILM 0.047uF 5%	50V
				C147	1-161-494-00	CERAMIC 0.022uF 25V	
				C148	1-162-306-11	CERAMIC 0.01uF 20%	16V
				C201	1-162-284-31	CERAMIC 150PF 10%	50V
				C202	1-126-961-11	ELECT 2.2uF 20%	50V
				C203	1-162-600-11	CERAMIC 0.0047uF 30%	16V
				C204	1-126-963-11	ELECT 4.7uF 20%	50V
				C205	1-162-302-11	CERAMIC 0.0022uF 20%	16V
				C206	1-126-963-11	ELECT 4.7uF 20%	50V
				C207	1-126-964-11	ELECT 10uF 20%	50V

Ref. No.	Part No.	Description	Remark			Ref. No.	Part No.	Description	Remark		
C208	1-130-495-00	MYLAR	0.1uF	5%	50V	C442	1-136-173-00	FILM	0.47uF	5%	50V
C209	1-137-375-11	FILM	0.068uF	5%	50V	C443	1-130-299-00	FILM	0.012uF	5%	50V
C210	1-126-964-11	ELECT	10uF	20%	50V	C444	1-137-436-11	FILM	0.0039uF	5%	50V
C211	1-126-959-11	ELECT	0.47uF	20%	50V	C445	1-137-436-11	FILM	0.0039uF	5%	50V
C212	1-126-963-11	ELECT	4.7uF	20%	50V	C446	1-126-964-11	ELECT	10uF	20%	50V
C213	1-126-963-11	ELECT	4.7uF	20%	50V	C451	1-126-964-11	ELECT	10uF	20%	50V
C214	1-126-961-11	ELECT	2.2uF	20%	50V	C501	1-126-964-11	ELECT	10uF	20%	50V
C215	1-137-436-11	FILM	0.0039uF	5%	50V	C502	1-126-964-11	ELECT	10uF	20%	50V
C216	1-126-959-11	ELECT	0.47uF	20%	50V	C503	1-126-964-11	ELECT	10uF	20%	50V
C217	1-126-963-11	ELECT	4.7uF	20%	50V	C505	1-126-960-11	ELECT	1uF	20%	50V
C220	1-162-289-31	CERAMIC	390PF	10%	50V	C506	1-130-497-00	MYLAR	0.15uF	5%	50V
C221	1-162-294-31	CERAMIC	0.001uF	10%	50V	C507	1-136-173-00	FILM	0.47uF	5%	50V
C222	1-162-282-31	CERAMIC	100PF	10%	50V	C508	1-126-959-11	ELECT	0.47uF	20%	50V
C223	1-137-372-11	FILM	0.022uF	5%	50V	C509	1-126-965-11	ELECT	22uF	20%	50V
C224	1-126-963-11	ELECT	4.7uF	20%	50V	C510	1-126-960-11	ELECT	1uF	20%	50V
C225	1-162-289-31	CERAMIC	390PF	10%	50V	C511	1-126-916-11	ELECT	1000uF	20%	6.3V
C226	1-162-282-31	CERAMIC	100PF	10%	50V	C521	1-137-457-11	FILM	0.0027uF	5%	50V
C227	1-137-372-11	FILM	0.022uF	5%	50V	C522	1-130-494-11	MYLAR	0.082uF	5%	50V
C228	1-126-963-11	ELECT	4.7uF	20%	50V	C523	1-137-374-11	FILM	0.047uF	5%	50V
C231	1-162-288-31	CERAMIC	330PF	10%	50V	C524	1-137-366-11	FILM	0.0022uF	5%	50V
C232	1-107-609-11	CERAMIC	75PF	5%	500V	C530	1-126-965-11	ELECT	22uF	20%	50V
C233	1-137-433-11	FILM	0.0012uF	5%	50V	C561	1-136-168-00	FILM	0.18uF	5%	50V
C234	1-102-973-00	CERAMIC	100PF	5%	50V	C562	1-137-370-11	FILM	0.01uF	5%	50V
C235	1-136-356-11	FILM	470PF	5%	100V	C563	1-136-175-00	FILM	0.68uF	5%	50V
C236	1-137-374-11	FILM	0.047uF	5%	50V	C601	1-164-159-11	CERAMIC	0.1uF		50V
C237	1-161-494-00	CERAMIC	0.022uF		25V	C701	1-128-547-11	ELECT	6800uF	20%	16V
C238	1-162-306-11	CERAMIC	0.01uF	20%	16V	C702	1-126-937-11	ELECT	4700uF	20%	16V
C241	1-162-288-31	CERAMIC	330PF	10%	50V	C703	1-126-960-11	ELECT	1uF	20%	50V
C242	1-107-609-11	CERAMIC	75PF	5%	500V	C704	1-126-969-11	ELECT	220uF	20%	50V
C243	1-137-433-11	FILM	0.0012uF	5%	50V	C705	1-126-963-11	ELECT	4.7uF	20%	50V
C244	1-102-973-00	CERAMIC	100PF	5%	50V	C706	1-126-926-11	ELECT	1000uF	20%	10V
C245	1-136-356-11	FILM	470PF	5%	100V	C707	1-126-926-11	ELECT	1000uF	20%	10V
C246	1-137-374-11	FILM	0.047uF	5%	50V	C708	1-126-963-11	ELECT	4.7uF	20%	50V
C247	1-161-494-00	CERAMIC	0.022uF		25V	C710	1-126-935-11	ELECT	470uF	20%	6.3V
C248	1-162-306-11	CERAMIC	0.01uF	20%	16V	C711	1-126-947-11	ELECT	47uF	20%	35V
C321	1-104-664-11	ELECT	47uF	20%	25V	C801	1-104-665-11	ELECT	100uF	20%	10V
C322	1-104-664-11	ELECT	47uF	20%	25V	C802	1-161-494-00	CERAMIC	0.022uF		25V
C331	1-104-664-11	ELECT	47uF	20%	16V	C803	1-126-959-11	ELECT	0.47uF	20%	50V
C332	1-107-584-11	CERAMIC	4PF	0.25PF	500V	C810	1-161-494-00	CERAMIC	0.022uF		25V
C333	1-126-965-11	ELECT	22uF	20%	50V	C811	1-164-159-11	CERAMIC	0.1uF		50V
C334	1-126-959-11	ELECT	0.47uF	20%	50V	C830	1-161-494-00	CERAMIC	0.022uF		25V
C341	1-136-293-11	FILM	0.0082uF	5%	100V	C831	1-161-494-00	CERAMIC	0.022uF		25V
C342	1-136-173-00	FILM	0.47uF	5%	50V	C834	1-161-494-00	CERAMIC	0.022uF		25V
C343	1-130-299-00	FILM	0.012uF	5%	50V	C836	1-161-494-00	CERAMIC	0.022uF		25V
C344	1-137-436-11	FILM	0.0039uF	5%	50V	< CONNECTOR >					
C345	1-137-436-11	FILM	0.0039uF	5%	50V	CN301	1-691-770-11	PLUG (MICRO CONNECTOR) 8P			
C346	1-126-964-11	ELECT	10uF	20%	50V	CN311	1-784-774-11	CONNECTOR, FFC 13P			
C351	1-126-964-11	ELECT	10uF	20%	50V	CN401	1-691-770-11	PLUG (MICRO CONNECTOR) 8P			
C417	1-126-959-11	ELECT	0.47uF	20%	50V	CN411	1-784-774-11	CONNECTOR, FFC 13P			
C421	1-104-664-11	ELECT	47uF	20%	25V	* CN803	1-568-934-11	PIN, CONNECTOR 7P			
C422	1-104-664-11	ELECT	47uF	20%	25V	* CN807	1-568-954-11	PIN, CONNECTOR 5P			
C431	1-104-664-11	ELECT	47uF	20%	16V	CNA806	1-506-468-11	PIN, CONNECTOR 3P			
C432	1-107-584-11	CERAMIC	4PF	0.25PF	500V	CNM701	1-691-769-11	PLUG (MICRO CONNECTOR) 7P			
C433	1-126-965-11	ELECT	22uF	20%	50V	CNS802	1-568-830-11	CONNECTOR, FFC 11P			
C434	1-126-959-11	ELECT	0.47uF	20%	50V						
C441	1-136-293-11	FILM	0.0082uF	5%	100V						

Ref. No.	Part No.	Description	Remark
< DIODE >			
D306	8-719-911-19	DIODE 1SS119-25	
D307	8-719-911-19	DIODE 1SS119-25	
D318	8-719-911-19	DIODE 1SS119-25	
D351	8-719-911-19	DIODE 1SS119-25	
D451	8-719-911-19	DIODE 1SS119-25	
D521	8-719-911-19	DIODE 1SS119-25	
D522	8-719-911-19	DIODE 1SS119-25	
D601	8-719-911-19	DIODE 1SS119-25	
D701	8-719-024-99	DIODE 11ES2-NTA2B	
D702	8-719-024-99	DIODE 11ES2-NTA2B	
D703	8-719-024-99	DIODE 11ES2-NTA2B	
D704	8-719-024-99	DIODE 11ES2-NTA2B	
D705	8-719-911-19	DIODE 1SS119-25	
D706	8-719-911-19	DIODE 1SS119-25	
D707	8-719-024-99	DIODE 11ES2-NTA2B	
D708	8-719-911-19	DIODE 1SS119-25	
D709	8-719-933-33	DIODE HZS6A1L	
D710	8-719-933-35	DIODE HZS6A3L	
D711	8-719-933-33	DIODE HZS6A1L	
D712	8-719-933-35	DIODE HZS6A3L	
D713	8-719-911-19	DIODE 1SS119-25	
D714	8-719-911-19	DIODE 1SS119-25	
D715	8-719-911-19	DIODE 1SS119-25	
D716	8-719-985-95	DIODE HZS7A2LTA	
D801	8-719-911-19	DIODE 1SS119-25	
< IC >			
IC321	8-759-710-59	IC NJM4580D-D	
IC331	8-759-106-56	IC UPC1297CA	
IC421	8-759-710-59	IC NJM4580D-D	
IC431	8-759-106-56	IC UPC1297CA	
IC501	8-752-075-27	IC CXA1878Q	
IC502	8-759-634-50	IC M5218AL	
IC504	8-752-070-67	IC CXA1597P	
IC561	8-759-634-50	IC M5218AL	
IC701	8-759-634-51	IC M5218AP	
IC801	8-752-902-28	IC CXP82432A-007Q	
IC802	8-759-165-82	IC PST600E-T	
IC803	8-759-916-14	IC SN74HC04AN	
IC804	8-759-000-48	IC MC14052BCP	
IC805	8-759-916-14	IC SN74HC04AN	
IC806	8-759-000-48	IC MC14052BCP	
< JACK >			
J501	1-770-614-11	JACK, PIN 4P (LINE IN/OUT)	
* J601	1-764-188-11	JACK (SMALL TYPE) (DIA. 3.5) (S-LINK CONTROL A1)	
* J602	1-764-188-11	JACK (SMALL TYPE) (DIA. 3.5) (S-LINK CONTROL A1)	
< COIL >			
L131	1-410-780-11	INDUCTOR 27mH	
L141	1-410-780-11	INDUCTOR 27mH	
L231	1-410-780-11	INDUCTOR 27mH	
L241	1-410-780-11	INDUCTOR 27mH	

Ref. No.	Part No.	Description	Remark
< FILTER >			
LPF101	1-233-271-11	FILTER, LOW PASS	
LPF201	1-233-271-11	FILTER, LOW PASS	
< TRANSISTOR >			
Q101	8-729-029-94	TRANSISTOR DTC143TSA	
Q102	8-729-142-25	TRANSISTOR 2SD1020-HFE	
Q103	8-729-030-02	TRANSISTOR DTC144ESA	
Q104	8-729-030-02	TRANSISTOR DTC144ESA	
Q201	8-729-029-94	TRANSISTOR DTC143TSA	
Q202	8-729-142-25	TRANSISTOR 2SD1020-HFE	
Q203	8-729-030-02	TRANSISTOR DTC144ESA	
Q204	8-729-030-02	TRANSISTOR DTC144ESA	
Q301	8-729-801-84	TRANSISTOR 2SB1013-4	
Q302	8-729-801-93	TRANSISTOR 2SD1387	
Q303	8-729-030-02	TRANSISTOR DTC144ESA	
Q306	8-729-030-02	TRANSISTOR DTC144ESA	
Q307	8-729-030-02	TRANSISTOR DTC144ESA	
Q308	8-729-030-02	TRANSISTOR DTC144ESA	
Q311	8-729-801-84	TRANSISTOR 2SB1013-4	
Q312	8-729-801-93	TRANSISTOR 2SD1387	
Q314	8-729-030-02	TRANSISTOR DTC144ESA	
Q316	8-729-029-56	TRANSISTOR DTA144ESA	
Q317	8-729-029-56	TRANSISTOR DTA144ESA	
Q318	8-729-029-56	TRANSISTOR DTA144ESA	
Q341	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q342	8-729-194-57	TRANSISTOR 2SC945-P	
Q343	8-729-194-57	TRANSISTOR 2SC945-P	
Q351	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q371	8-729-140-04	TRANSISTOR 2SB1116A-L	
Q373	8-729-030-02	TRANSISTOR DTC144ESA	
Q401	8-729-801-84	TRANSISTOR 2SB1013-4	
Q402	8-729-801-93	TRANSISTOR 2SD1387	
Q403	8-729-030-02	TRANSISTOR DTC144ESA	
Q411	8-729-801-84	TRANSISTOR 2SB1013-4	
Q412	8-729-801-93	TRANSISTOR 2SD1387	
Q414	8-729-030-02	TRANSISTOR DTC144ESA	
Q417	8-729-029-56	TRANSISTOR DTA144ESA	
Q441	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q442	8-729-194-57	TRANSISTOR 2SC945-P	
Q443	8-729-194-57	TRANSISTOR 2SC945-P	
Q451	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q471	8-729-140-04	TRANSISTOR 2SB1116A-L	
Q473	8-729-030-02	TRANSISTOR DTC144ESA	
Q501	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q502	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q503	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q505	8-729-029-94	TRANSISTOR DTC143TSA	
Q506	8-729-029-94	TRANSISTOR DTC143TSA	
Q601	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q701	8-729-141-83	TRANSISTOR 2SB1094-LK	
Q702	8-729-209-15	TRANSISTOR 2SD2012	
Q703	8-729-141-83	TRANSISTOR 2SB1094-LK	
Q704	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q707	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q708	8-729-140-04	TRANSISTOR 2SB1116A-L	

Ref. No.	Part No.	Description	Remark			Ref. No.	Part No.	Description	Remark		
Q801	8-729-029-66	TRANSISTOR DTC114ESA				R212	1-247-807-31	CARBON	100	5%	1/4W
		< RESISTOR >				R213	1-247-882-11	CARBON	130K	5%	1/4W
R101	1-249-429-11	CARBON	10K	5%	1/4W	R214	1-247-850-11	CARBON	6.2K	5%	1/4W
R102	1-247-887-00	CARBON	220K	5%	1/4W	R215	1-249-433-11	CARBON	22K	5%	1/4W
R103	1-249-441-11	CARBON	100K	5%	1/4W	R216	1-247-843-11	CARBON	3.3K	5%	1/4W
R104	1-249-420-11	CARBON	1.8K	5%	1/4W F	R217	1-249-429-11	CARBON	10K	5%	1/4W
R105	1-247-843-11	CARBON	3.3K	5%	1/4W	R218	1-249-409-11	CARBON	220	5%	1/4W F
R106	1-247-842-11	CARBON	3K	5%	1/4W	R219	1-249-417-11	CARBON	1K	5%	1/4W F
R107	1-249-417-11	CARBON	1K	5%	1/4W F	R220	1-249-439-11	CARBON	68K	5%	1/4W
R108	1-249-427-11	CARBON	6.8K	5%	1/4W F	R221	1-247-881-00	CARBON	120K	5%	1/4W
R109	1-249-429-11	CARBON	10K	5%	1/4W	R222	1-247-807-31	CARBON	100	5%	1/4W
R110	1-249-425-11	CARBON	4.7K	5%	1/4W F	R223	1-247-882-11	CARBON	130K	5%	1/4W
R111	1-247-881-00	CARBON	120K	5%	1/4W	R224	1-247-850-11	CARBON	6.2K	5%	1/4W
R112	1-247-807-31	CARBON	100	5%	1/4W	R225	1-249-440-11	CARBON	82K	5%	1/4W
R113	1-247-882-11	CARBON	130K	5%	1/4W	R226	1-249-421-11	CARBON	2.2K	5%	1/4W F
R114	1-247-850-11	CARBON	6.2K	5%	1/4W	R227	1-249-430-11	CARBON	12K	5%	1/4W
R115	1-249-433-11	CARBON	22K	5%	1/4W	R228	1-249-417-11	CARBON	1K	5%	1/4W F
R116	1-247-843-11	CARBON	3.3K	5%	1/4W	R229	1-249-421-11	CARBON	2.2K	5%	1/4W F
R117	1-249-429-11	CARBON	10K	5%	1/4W	R230	1-249-434-11	CARBON	27K	5%	1/4W
R118	1-249-409-11	CARBON	220	5%	1/4W F	R231	1-249-430-11	CARBON	12K	5%	1/4W
R119	1-249-417-11	CARBON	1K	5%	1/4W F	R232	1-247-883-00	CARBON	150K	5%	1/4W
R120	1-249-439-11	CARBON	68K	5%	1/4W	△ R233	1-219-153-11	FUSIBLE	10	5%	1/4W F
R121	1-247-881-00	CARBON	120K	5%	1/4W	R234	1-249-435-11	CARBON	33K	5%	1/4W
R122	1-247-807-31	CARBON	100	5%	1/4W	R235	1-249-431-11	CARBON	15K	5%	1/4W
R123	1-247-882-11	CARBON	130K	5%	1/4W	R241	1-249-430-11	CARBON	12K	5%	1/4W
R124	1-247-850-11	CARBON	6.2K	5%	1/4W	R242	1-247-883-00	CARBON	150K	5%	1/4W
R125	1-249-440-11	CARBON	82K	5%	1/4W	△ R243	1-219-153-11	FUSIBLE	10	5%	1/4W F
R126	1-249-421-11	CARBON	2.2K	5%	1/4W F	R244	1-249-435-11	CARBON	33K	5%	1/4W
R127	1-249-430-11	CARBON	12K	5%	1/4W	R245	1-249-431-11	CARBON	15K	5%	1/4W
R128	1-249-417-11	CARBON	1K	5%	1/4W F	R251	1-249-437-11	CARBON	47K	5%	1/4W
R129	1-249-421-11	CARBON	2.2K	5%	1/4W F	R252	1-249-433-11	CARBON	22K	5%	1/4W
R130	1-249-434-11	CARBON	27K	5%	1/4W	R253	1-249-427-11	CARBON	6.8K	5%	1/4W F
R131	1-249-430-11	CARBON	12K	5%	1/4W	R301	1-249-437-11	CARBON	47K	5%	1/4W
R132	1-247-883-00	CARBON	150K	5%	1/4W	R302	1-249-414-11	CARBON	560	5%	1/4W F
△ R133	1-219-153-11	FUSIBLE	10	5%	1/4W F	R303	1-249-437-11	CARBON	47K	5%	1/4W
R134	1-249-435-11	CARBON	33K	5%	1/4W	R304	1-249-419-11	CARBON	1.5K	5%	1/4W F
R135	1-249-431-11	CARBON	15K	5%	1/4W	R306	1-249-433-11	CARBON	22K	5%	1/4W
R141	1-249-430-11	CARBON	12K	5%	1/4W	R309	1-249-433-11	CARBON	22K	5%	1/4W
R142	1-247-883-00	CARBON	150K	5%	1/4W	R311	1-249-437-11	CARBON	47K	5%	1/4W
△ R143	1-219-153-11	FUSIBLE	10	5%	1/4W F	R312	1-249-419-11	CARBON	1.5K	5%	1/4W F
R144	1-249-435-11	CARBON	33K	5%	1/4W	R313	1-249-414-11	CARBON	560	5%	1/4W F
R145	1-249-431-11	CARBON	15K	5%	1/4W	R314	1-249-437-11	CARBON	47K	5%	1/4W
R151	1-249-437-11	CARBON	47K	5%	1/4W	R316	1-249-434-11	CARBON	27K	5%	1/4W
R152	1-249-433-11	CARBON	22K	5%	1/4W	R317	1-247-862-11	CARBON	20K	5%	1/4W
R153	1-249-427-11	CARBON	6.8K	5%	1/4W F	R318	1-249-426-11	CARBON	5.6K	5%	1/4W
R201	1-249-429-11	CARBON	10K	5%	1/4W	R341	1-249-429-11	CARBON	10K	5%	1/4W
R202	1-247-887-00	CARBON	220K	5%	1/4W	R342	1-249-429-11	CARBON	10K	5%	1/4W
R203	1-249-441-11	CARBON	100K	5%	1/4W	R343	1-249-390-11	CARBON	5.6	5%	1/4W F
R204	1-249-420-11	CARBON	1.8K	5%	1/4W F	R344	1-249-390-11	CARBON	5.6	5%	1/4W F
R205	1-247-843-11	CARBON	3.3K	5%	1/4W	R345	1-249-440-11	CARBON	82K	5%	1/4W
R206	1-247-842-11	CARBON	3K	5%	1/4W	R346	1-249-440-11	CARBON	82K	5%	1/4W
R207	1-249-417-11	CARBON	1K	5%	1/4W F	R351	1-249-429-11	CARBON	10K	5%	1/4W
R208	1-249-427-11	CARBON	6.8K	5%	1/4W F	R352	1-249-425-11	CARBON	4.7K	5%	1/4W F
R209	1-249-429-11	CARBON	10K	5%	1/4W	R361	1-247-876-11	CARBON	75K	5%	1/4W
R210	1-249-425-11	CARBON	4.7K	5%	1/4W F	R362	1-249-417-11	CARBON	1K	5%	1/4W F
R211	1-247-881-00	CARBON	120K	5%	1/4W	R363	1-249-425-11	CARBON	4.7K	5%	1/4W F

以阴影和 △标志来识别的零部件，在安全方面具有关键性，因此只能以规定号码的零部件来更换。

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.



# MAIN

Ref. No.	Part No.	Description			Remark	Ref. No.	Part No.	Description			Remark
R364	1-249-425-11	CARBON	4.7K	5%	1/4W F	R571	1-249-418-11	CARBON	1.2K	5%	1/4W F
R371	1-249-417-11	CARBON	1K	5%	1/4W F	R572	1-249-426-11	CARBON	5.6K	5%	1/4W
R372	1-249-429-11	CARBON	10K	5%	1/4W	R573	1-249-427-11	CARBON	6.8K	5%	1/4W F
R401	1-249-437-11	CARBON	47K	5%	1/4W						
R402	1-249-414-11	CARBON	560	5%	1/4W F	R575	1-247-852-11	CARBON	7.5K	5%	1/4W
						R576	1-249-430-11	CARBON	12K	5%	1/4W
R403	1-249-437-11	CARBON	47K	5%	1/4W	R577	1-249-428-11	CARBON	8.2K	5%	1/4W F
R404	1-249-419-11	CARBON	1.5K	5%	1/4W F	R578	1-249-428-11	CARBON	8.2K	5%	1/4W F
R411	1-249-437-11	CARBON	47K	5%	1/4W	R579	1-249-426-11	CARBON	5.6K	5%	1/4W
R412	1-249-419-11	CARBON	1.5K	5%	1/4W F						
R413	1-249-414-11	CARBON	560	5%	1/4W F	R580	1-249-422-11	CARBON	2.7K	5%	1/4W F
						R581	1-249-425-11	CARBON	4.7K	5%	1/4W F
R414	1-249-437-11	CARBON	47K	5%	1/4W	R582	1-249-425-11	CARBON	4.7K	5%	1/4W F
R416	1-249-434-11	CARBON	27K	5%	1/4W	R583	1-247-852-11	CARBON	7.5K	5%	1/4W
R417	1-247-862-11	CARBON	20K	5%	1/4W	R584	1-249-430-11	CARBON	12K	5%	1/4W
R441	1-249-429-11	CARBON	10K	5%	1/4W						
R442	1-249-429-11	CARBON	10K	5%	1/4W	R585	1-249-428-11	CARBON	8.2K	5%	1/4W F
						R586	1-249-428-11	CARBON	8.2K	5%	1/4W F
R443	1-249-390-11	CARBON	5.6	5%	1/4W F	R587	1-249-422-11	CARBON	2.7K	5%	1/4W F
R444	1-249-390-11	CARBON	5.6	5%	1/4W F	R588	1-249-426-11	CARBON	5.6K	5%	1/4W
R445	1-249-440-11	CARBON	82K	5%	1/4W	R601	1-249-429-11	CARBON	10K	5%	1/4W
R446	1-249-440-11	CARBON	82K	5%	1/4W						
R451	1-249-429-11	CARBON	10K	5%	1/4W	R602	1-249-417-11	CARBON	1K	5%	1/4W F
						R603	1-249-425-11	CARBON	4.7K	5%	1/4W F
R452	1-249-425-11	CARBON	4.7K	5%	1/4W F	R604	1-249-429-11	CARBON	10K	5%	1/4W
R461	1-247-876-11	CARBON	75K	5%	1/4W	R605	1-249-393-11	CARBON	10	5%	1/4W F
R462	1-249-417-11	CARBON	1K	5%	1/4W F	R701	1-249-414-11	CARBON	560	5%	1/4W F
R463	1-249-425-11	CARBON	4.7K	5%	1/4W F						
R464	1-249-425-11	CARBON	4.7K	5%	1/4W F	R703	1-247-843-11	CARBON	3.3K	5%	1/4W
						R704	1-249-425-11	CARBON	4.7K	5%	1/4W F
R471	1-249-417-11	CARBON	1K	5%	1/4W F	R705	1-249-427-11	CARBON	6.8K	5%	1/4W F
R472	1-249-429-11	CARBON	10K	5%	1/4W	R706	1-249-419-11	CARBON	1.5K	5%	1/4W F
R501	1-215-455-00	METAL	27K	1%	1/4W	R707	1-247-854-11	CARBON	9.1K	5%	1/4W
R502	1-215-452-00	METAL	20K	1%	1/4W						
R503	1-249-417-11	CARBON	1K	5%	1/4W F	R708	1-249-419-11	CARBON	1.5K	5%	1/4W F
						R709	1-249-425-11	CARBON	4.7K	5%	1/4W F
R504	1-249-422-11	CARBON	2.7K	5%	1/4W F	R710	1-249-417-11	CARBON	1K	5%	1/4W F
R505	1-247-903-00	CARBON	1M	5%	1/4W	R711	1-249-427-11	CARBON	6.8K	5%	1/4W F
R506	1-249-429-11	CARBON	10K	5%	1/4W	R712	1-249-427-11	CARBON	6.8K	5%	1/4W F
R507	1-249-429-11	CARBON	10K	5%	1/4W						
R508	1-249-413-11	CARBON	470	5%	1/4W F	R713	1-249-417-11	CARBON	1K	5%	1/4W F
						R714	1-249-429-11	CARBON	10K	5%	1/4W
R509	1-249-417-11	CARBON	1K	5%	1/4W F	R715	1-249-422-11	CARBON	2.7K	5%	1/4W F
R510	1-249-437-11	CARBON	47K	5%	1/4W	R716	1-249-433-11	CARBON	22K	5%	1/4W
R511	1-249-429-11	CARBON	10K	5%	1/4W	R717	1-249-421-11	CARBON	2.2K	5%	1/4W F
R512	1-249-413-11	CARBON	470	5%	1/4W F						
R513	1-249-437-11	CARBON	47K	5%	1/4W	R718	1-249-429-11	CARBON	10K	5%	1/4W
						R719	1-249-430-11	CARBON	12K	5%	1/4W
R514	1-249-401-11	CARBON	47	5%	1/4W F	△ R720	1-219-136-11	FUSIBLE	0.22	10%	1/4W
R515	1-215-455-00	METAL	27K	1%	1/4W	△ R722	1-219-137-11	FUSIBLE	0.33	10%	1/4W
R521	1-249-433-11	CARBON	22K	5%	1/4W	△ R723	1-219-137-11	FUSIBLE	0.33	10%	1/4W
R522	1-249-426-11	CARBON	5.6K	5%	1/4W						
R523	1-249-436-11	CARBON	39K	5%	1/4W	R801	1-249-417-11	CARBON	1K	5%	1/4W F
						R803	1-249-429-11	CARBON	10K	5%	1/4W
R524	1-249-425-11	CARBON	4.7K	5%	1/4W F	R804	1-249-429-11	CARBON	10K	5%	1/4W
R525	1-249-425-11	CARBON	4.7K	5%	1/4W F	R805	1-247-807-31	CARBON	100	5%	1/4W
R526	1-249-441-11	CARBON	100K	5%	1/4W	R806	1-249-433-11	CARBON	22K	5%	1/4W
R527	1-249-441-11	CARBON	100K	5%	1/4W						
R528	1-249-424-11	CARBON	3.9K	5%	1/4W F	R807	1-249-441-11	CARBON	100K	5%	1/4W
						R808	1-249-441-11	CARBON	100K	5%	1/4W
R529	1-249-413-11	CARBON	470	5%	1/4W F	R809	1-249-417-11	CARBON	1K	5%	1/4W F
R530	1-249-429-11	CARBON	10K	5%	1/4W	R810	1-247-807-31	CARBON	100	5%	1/4W
R561	1-249-437-11	CARBON	47K	5%	1/4W	R811	1-249-429-11	CARBON	10K	5%	1/4W
R562	1-249-437-11	CARBON	47K	5%	1/4W						
R563	1-249-437-11	CARBON	47K	5%	1/4W	R812	1-249-429-11	CARBON	10K	5%	1/4W
						R813	1-247-807-31	CARBON	100	5%	1/4W
R564	1-249-431-11	CARBON	15K	5%	1/4W	R830	1-247-807-31	CARBON	100	5%	1/4W
R565	1-249-429-11	CARBON	10K	5%	1/4W	R831	1-249-431-11	CARBON	15K	5%	1/4W

The PANEL board is composed of following boards.  
(TRANS (A), TRANS (B), DIRECTION, H.P. POWER and RECVOL BOARD)

MAIN

PANEL

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
R832	1-249-429-11	CARBON 10K 5%	1/4W	< TRANSFORMER >			
R833	1-249-421-11	CARBON 2.2K 5%	1/4W F	T131	1-433-381-11	TRANSFORMER, BIAS OSCILLATOR	
R834	1-247-852-11	CARBON 7.5K 5%	1/4W	T141	1-433-381-11	TRANSFORMER, BIAS OSCILLATOR	
R835	1-247-866-11	CARBON 30K 5%	1/4W	T231	1-433-381-11	TRANSFORMER, BIAS OSCILLATOR	
R836	1-247-874-11	CARBON 62K 5%	1/4W	T241	1-433-381-11	TRANSFORMER, BIAS OSCILLATOR	
R837	1-249-434-11	CARBON 27K 5%	1/4W	T341	1-429-222-11	TRANSFORMER, BIAS OSCILLATION (105kHz)	
R838	1-249-434-11	CARBON 27K 5%	1/4W	T441	1-429-222-11	TRANSFORMER, BIAS OSCILLATION (105kHz)	
R839	1-249-434-11	CARBON 27K 5%	1/4W	< TEST PIN >			
R840	1-249-434-11	CARBON 27K 5%	1/4W	TP331	1-766-276-11	PIN, CONNECTOR (PC BOARD) 3P	
R841	1-249-429-11	CARBON 10K 5%	1/4W	TP441	1-766-276-11	PIN, CONNECTOR (PC BOARD) 3P	
R842	1-249-429-11	CARBON 10K 5%	1/4W	< VIBRATOR >			
R843	1-249-429-11	CARBON 10K 5%	1/4W	X801	1-579-175-11	VIBRATOR, CERAMIC (10MHz)	
R844	1-249-429-11	CARBON 10K 5%	1/4W	*****			
R845	1-249-431-11	CARBON 15K 5%	1/4W	*	A-2007-812-A	PANEL BOARD, COMPLETE (EXCEPT SP,MY)	
R846	1-249-429-11	CARBON 10K 5%	1/4W	*****			
R847	1-247-864-11	CARBON 24K 5%	1/4W	*	A-2007-816-A	PANEL BOARD, COMPLETE (SP,MY)	
R853	1-249-421-11	CARBON 2.2K 5%	1/4W F	*****			
R854	1-247-852-11	CARBON 7.5K 5%	1/4W	(TRANS (A), TRANS (B), DIRECTION, H.P. POWER, RECVOL BOARD are included.)			
R855	1-247-866-11	CARBON 30K 5%	1/4W	*	3-377-337-11	HOLDER (FL)	
R856	1-247-874-11	CARBON 62K 5%	1/4W	< CAPACITOR >			
R857	1-249-431-11	CARBON 15K 5%	1/4W	C001	1-113-925-11	CERAMIC 0.01uF 20% 250V	
R858	1-249-434-11	CARBON 27K 5%	1/4W	C517	1-162-294-31	CERAMIC 0.001uF 10% 50V	
R859	1-249-434-11	CARBON 27K 5%	1/4W	C518	1-162-294-31	CERAMIC 0.001uF 10% 50V	
R860	1-249-434-11	CARBON 27K 5%	1/4W	C751	1-164-159-11	CERAMIC 0.1uF 50V	
R861	1-249-434-11	CARBON 27K 5%	1/4W	C752	1-137-374-11	FILM 0.047uF 5% 50V	
R863	1-249-429-11	CARBON 10K 5%	1/4W	C753	1-137-374-11	FILM 0.047uF 5% 50V	
R864	1-249-429-11	CARBON 10K 5%	1/4W	C901	1-104-665-11	ELECT 100uF 20% 10V	
R865	1-249-429-11	CARBON 10K 5%	1/4W	C902	1-161-494-00	CERAMIC 0.022uF 25V	
R866	1-249-429-11	CARBON 10K 5%	1/4W	C903	1-162-207-31	CERAMIC 22PF 5% 50V	
R867	1-247-864-11	CARBON 24K 5%	1/4W	C904	1-126-160-11	ELECT 1uF 20% 50V	
R868	1-249-429-11	CARBON 10K 5%	1/4W	< CONNECTOR >			
< VARIABLE RESISTOR >				* CN001	1-580-230-31	PIN, CONNECTOR (PC BOARD) 2P (SP,MY)	
RV101	1-241-765-11	RES, ADJ, CARBON 22K		* CN002	1-568-226-11	PIN, CONNECTOR 2P (EXCEPT SP,MY)	
RV102	1-241-765-11	RES, ADJ, CARBON 22K		CN901	1-784-733-11	CONNECTOR, FFC 11P	
RV111	1-241-764-11	RES, ADJ, CARBON 10K		< DIODE >			
RV121	1-241-764-11	RES, ADJ, CARBON 10K		D901	8-719-313-43	DIODE SEL6210S-TH10 (SYNCHRO)	
RV131	1-241-765-11	RES, ADJ, CARBON 22K		D902	8-719-313-43	DIODE SEL6210S-TH10 (AUTO)	
RV141	1-241-765-11	RES, ADJ, CARBON 22K		D904	8-719-911-19	DIODE 1SS119-25	
RV201	1-241-765-11	RES, ADJ, CARBON 22K		D905	8-719-911-19	DIODE 1SS119-25	
RV202	1-241-765-11	RES, ADJ, CARBON 22K		D906	8-719-911-19	DIODE 1SS119-25	
RV211	1-241-764-11	RES, ADJ, CARBON 10K		D907	8-719-911-19	DIODE 1SS119-25	
RV221	1-241-764-11	RES, ADJ, CARBON 10K		D908	8-719-911-19	DIODE 1SS119-25	
RV231	1-241-765-11	RES, ADJ, CARBON 22K		< FLUORESCENT INDICATOR >			
RV241	1-241-765-11	RES, ADJ, CARBON 22K		FLT901	1-517-263-11	INDICATOR TUBE, FLUORESCENT	
RV316	1-241-764-11	RES, ADJ, CARBON 10K					
RV317	1-241-765-11	RES, ADJ, CARBON 22K					
RV318	1-241-764-11	RES, ADJ, CARBON 10K					
RV416	1-241-764-11	RES, ADJ, CARBON 10K					
RV417	1-241-765-11	RES, ADJ, CARBON 22K					
< RELAY >							
RY351	1-755-061-11	RELAY					
RY451	1-755-061-11	RELAY					

# PANEL

Ref. No.	Part No.	Description	Remark		
< IC >					
IC901	8-749-014-66	IC NJL56H400A			
IC902	8-759-547-59	IC M35500BGP			
< JACK >					
J502	1-568-519-41	JACK, LARGE TYPE (PHONES)			
< TRANSISTOR >					
Q901	8-729-029-94	TRANSISTOR DTC143TSA			
< RESISTOR >					
R824	1-249-437-11	CARBON	47K	5%	1/4W (SP,MY)
R901	1-249-413-11	CARBON	470	5%	1/4W F
R902	1-249-413-11	CARBON	470	5%	1/4W F
R904	1-247-807-31	CARBON	100	5%	1/4W
R905	1-249-441-11	CARBON	100K	5%	1/4W
R906	1-247-807-31	CARBON	100	5%	1/4W
R911	1-249-418-11	CARBON	1.2K	5%	1/4W F
R912	1-249-420-11	CARBON	1.8K	5%	1/4W F
R913	1-249-422-11	CARBON	2.7K	5%	1/4W F
R914	1-249-424-11	CARBON	3.9K	5%	1/4W F
R915	1-249-427-11	CARBON	6.8K	5%	1/4W F
R916	1-249-431-11	CARBON	15K	5%	1/4W
R917	1-249-437-11	CARBON	47K	5%	1/4W
R921	1-249-418-11	CARBON	1.2K	5%	1/4W F
R922	1-249-420-11	CARBON	1.8K	5%	1/4W F
R923	1-249-422-11	CARBON	2.7K	5%	1/4W F
R924	1-249-424-11	CARBON	3.9K	5%	1/4W F
R925	1-249-427-11	CARBON	6.8K	5%	1/4W F
R926	1-249-431-11	CARBON	15K	5%	1/4W
R927	1-249-437-11	CARBON	47K	5%	1/4W
R931	1-249-418-11	CARBON	1.2K	5%	1/4W F
R932	1-249-420-11	CARBON	1.8K	5%	1/4W F
R933	1-249-422-11	CARBON	2.7K	5%	1/4W F
R934	1-249-418-11	CARBON	1.2K	5%	1/4W F
R935	1-249-420-11	CARBON	1.8K	5%	1/4W F
R936	1-249-422-11	CARBON	2.7K	5%	1/4W F
R937	1-249-424-11	CARBON	3.9K	5%	1/4W F
R941	1-249-418-11	CARBON	1.2K	5%	1/4W F
R942	1-249-420-11	CARBON	1.8K	5%	1/4W F
R943	1-249-422-11	CARBON	2.7K	5%	1/4W F
R944	1-249-424-11	CARBON	3.9K	5%	1/4W F
R945	1-249-427-11	CARBON	6.8K	5%	1/4W F
R951	1-249-418-11	CARBON	1.2K	5%	1/4W F
R952	1-249-420-11	CARBON	1.8K	5%	1/4W F
R953	1-249-422-11	CARBON	2.7K	5%	1/4W F
R955	1-249-429-11	CARBON	10K	5%	1/4W
R956	1-249-429-11	CARBON	10K	5%	1/4W
R957	1-249-429-11	CARBON	10K	5%	1/4W
R958	1-249-437-11	CARBON	47K	5%	1/4W
R960	1-249-429-11	CARBON	10K	5%	1/4W
R961	1-249-429-11	CARBON	10K	5%	1/4W
R962	1-249-441-11	CARBON	100K	5%	1/4W

Ref. No.	Part No.	Description	Remark
< VARIABLE RESISTOR >			
RV901	1-225-707-11	RES, VAR, CARBON 20K	
RV902	1-225-619-11	RES, VAR, CARBON 10K	
< SWITCH >			
S850	1-762-581-11	SWITCH, AC POWER PUSH (1 KEY)(⊙)	
S911	1-762-875-21	SWITCH, KEYBOARD (□ (CLEAR))(A DECK))	
S912	1-762-875-21	SWITCH, KEYBOARD (■ (A DECK))	
S913	1-762-875-21	SWITCH, KEYBOARD (▷ (FRONT))(A DECK))	
S914	1-762-875-21	SWITCH, KEYBOARD (◁ (BACK))(A DECK))	
S915	1-762-875-21	SWITCH, KEYBOARD (REC MUTING (A DECK))	
S916	1-762-875-21	SWITCH, KEYBOARD (◁◁ (AMS))(B DECK))	
S917	1-762-875-21	SWITCH, KEYBOARD (▷▷ (AMS))(B DECK))	
S918	1-762-875-21	SWITCH, KEYBOARD (REC (B DECK))	
S921	1-762-875-21	SWITCH, KEYBOARD (□ (B DECK))	
S922	1-762-875-21	SWITCH, KEYBOARD (■ (B DECK))	
S923	1-762-875-21	SWITCH, KEYBOARD (▷ (B DECK))	
S924	1-762-875-21	SWITCH, KEYBOARD (◁ (B DECK))	
S925	1-762-875-21	SWITCH, KEYBOARD (REC MUTING (B DECK))	
S926	1-762-875-21	SWITCH, KEYBOARD (◁◁ (AMS) RMS - (A DECK))	
S927	1-762-875-21	SWITCH, KEYBOARD (▷▷ (AMS) RMS + (A DECK))	
S928	1-762-875-21	SWITCH, KEYBOARD (REC (A DECK))	
S931	1-762-875-21	SWITCH, KEYBOARD (RESET (A DECK))	
S932	1-762-875-21	SWITCH, KEYBOARD (MEMORY (A DECK))	
S933	1-762-875-21	SWITCH, KEYBOARD (FADER)	
S934	1-762-875-21	SWITCH, KEYBOARD (ARL)	
S935	1-762-875-21	SWITCH, KEYBOARD (SYNCHRO)	
S936	1-762-567-11	SWITCH, SLIDE (DOLBY NR OFF-ON-MPX)	
S937	1-762-608-11	SWITCH, SLIDE (DOLBY NR B-C)	
S941	1-762-875-21	SWITCH, KEYBOARD (DISPLAY (RMS))	
S942	1-762-875-21	SWITCH, KEYBOARD (RMS START (RMS))	
S943	1-762-875-21	SWITCH, KEYBOARD (CHECK (RMS))	
S944	1-762-875-21	SWITCH, KEYBOARD (SET (RMS))	
S945	1-762-875-21	SWITCH, KEYBOARD (A+B REC (START (DECK B■)))	
S946	1-762-875-21	SWITCH, KEYBOARD (DUBBING A+B, HIGH/NORMAL (START (DECK B■)))	
S947	1-762-609-11	SWITCH, SLIDE (DIRECTION ⇄/↻/RELAY)	
S951	1-762-875-21	SWITCH, KEYBOARD (RESET (B DECK))	
S952	1-762-875-21	SWITCH, KEYBOARD (MEMORY (B DECK))	
S953	1-762-875-21	SWITCH, KEYBOARD (DECK A (AUTO CAL (START ■)))	
S954	1-762-875-21	SWITCH, KEYBOARD (DECK B (AUTO CAL (START ■)))	
S960	1-554-118-00	SWITCH, PUSH (1 KEY)(PITCH CON ON/OFF)	
*****			
MISCELLANEOUS			
*****			
51	1-751-086-11	WIRE (FLAT TYPE)(13 CORE)(180mm)	
52	1-769-976-11	WIRE (FLAT TYPE)(13 CORE)(140mm)	
△ 53	1-558-945-21	CORD, POWER (POLAR.SPT-1)(CND)	
△ 53	1-575-651-21	CORD, POWER (SP,MY)	
△ 53	1-751-535-11	CORD, POWER (UK)	

以阴影和 △ 标志来识别的零部件，在安全方面具有关键性，因此只能以规定号码的零部件来更换。

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.



Ref. No.	Part No.	Description	Remark
△ 53	1-777-107-11	CORD, POWER (AEP)	
△ 53	1-777-218-11	CORD, POWER (AUS)	
△ 53	1-783-108-11	CORD, POWER (CH)	
△ 53	1-783-531-51	CORD, POWER (US)	
162	1-769-950-11	WIRE (FLAT TYPE)(11 CORE)	
FLT901	1-517-263-11	INDICATOR TUBE, FLUORESCENT	
HRPE1	A-2004-646-C	DECK ASSY, HEAD (RECORD/PLAYBACK/ERASE)(DECK A)	
HRPE2	A-2004-646-C	DECK ASSY, HEAD (RECORD/PLAYBACK/ERASE)(DECK B)	
M1001	A-2004-644-A	MOTOR ASSY, CAPSTAN (DECK A)	
M1002	A-2004-644-A	MOTOR ASSY, CAPSTAN (DECK B)	
△ S902	1-692-155-11	SELECTOR, POWER VOLTAGE (SP,MY)	
△ T901	1-431-786-12	TRANSFORMER, POWER (AEP,UK,AUS,CH)	
△ T901	1-431-789-12	TRANSFORMER, POWER (SP,MY)	
△ T901	1-431-788-12	TRANSFORMER, POWER (US,CND)	

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#### ACCESSORIES & PACKING MATERIALS

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1-776-263-51	CORD, CONNECTION (AUDIO)
1-777-241-11	CORD, CONNECTION (CONTROL A1)(CND)
3-866-256-11	MANUAL, INSTRUCTION (ENGLISH)
3-866-256-21	MANUASL, INSTRUCTION (FRENCH, SPANISH) (CND,AEP,SP,MY)
3-866-256-31	MANUAL, INSTRUCTION (GERMAN, DUTCH, SWEDISH, ITALIAN, PORUTGUESE)(AEP)
3-866-256-41	MANUAL, INSTRUCTION (CHINESE)(SP,MY,CH)
3-866-671-11	MANUAL (FOR CONTROL A1) (ENGLISH)(US,UK,AUS)
3-866-671-21	MANUAL (FOR CONTROL A1) (ENGLISH,FRENCH,GERMAN,SPANISH,DUTCH, PORTUGUESE,SWEDISH,ITALIAN, CHINESE) (CND,AEP,SP,MY,CH)

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#### HARDWARE LIST

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#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S
#2	7-685-871-01	SCREW +BVTT 3X6 (S)
#3	7-685-851-09	SCREW +BVTT 2X4 (S)
#4	7-685-852-04	SCREW +BVTT 2X5 (S)
#5	7-685-902-21	SCREW +PTPWH 2.6X8 (TYPE2)
#6	7-628-254-15	SCREW +PS 2.6X6
#7	7-623-505-01	LUG, 2
#8	7-685-851-04	SCREW +BVTT 2X4 (S)

以阴影和 △ 标志来识别的零部件，在安全方面具有关键性，因此只能以规定号码的零部件来更换。

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